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A
COMPARATIVE VIEW
OF THE
FORM AND CHARACTER
OF THE
ENGLISH RACER AND SADDLE-HORSE
DURING
THE LAST AND PRESENT CENTURIES.

ILLUSTRATED BY EIGHTEEN PLATES OF HORSES.

LONDON:
THOMAS HOOKHAM, 15, OLD BOND STREET.

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Joshua Bates
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INTRODUCTION.

THE main object of these pages is to investigate the results of that structural enlargement of Animals which is unnatural,—to point out those properties which may be acquired by certain of them when fully reclaimed, and those which they are likely to lose in this condition.

The natural stature both of Horses and Cattle is small compared with that which they acquire when domesticated. The enlargement of their structure is effected by grass made by art unnaturally rich; or by food yet more foreign to their nature. Supplied plentifully with either throughout the year, Horses acquire an increase of stature and muscular power which enables them to carry or drag a heavier weight, and Cattle under this new form afford more milk or more flesh.

Is the change effected in this case confined to the material portion of the animal, or does it extend to that which is immaterial? In enlarging the structure we appear to modify animal power rather than to create it. He who forms all living things gives to the male more material power than to the female, but he also furnishes it with a proportionate amount of vital power. A Stallion, though larger than a Mare, is able to subsist on the same class of food, submit to equal privations, and travel daily equal distances.

When the stature of animals is what nature intended, they are duly nourished upon natural food, while the enlarged animal must be supported upon more nutritive food. To what can we attribute the inability of the larger animal to subsist on natural food, but to a loss of some of that power connected with animal life, which, call it what we will, is not material, and is greatest when the animals are in a condition nearest to that of nature?

Our beneficial interference with the laws of nature in this matter appears to be confined by narrower limits than those which circumscribe the power of unnatural food. If it were otherwise, none would be too rich for our purpose—no amount of material power attainable by this means would be incompatible with other good properties. It cannot be doubted that these animals become more useful to us after their stature has been enlarged. The object of these pages is not to decry this structural enlargement, but to point out the means of rendering it more useful. The first step to be taken in this task is to look attentively at the properties which animals derive from nature, comparing these with what they derive from art—to see how far the natural and artificial properties are conflicting, and how they can best be reconciled.

Many facts bespeak the great vigour of animals when in at all a natural condition. While an endless variety of form is displayed by domesticated animals, we perceive scarcely any variation in wild ones of the same race, living in the same climate and on the same food. Disease, resulting from insufficiency of food, often reduces them to a miserable condition, but they either recover entirely or perish; the natural vigour of a race in a state of nature seems never permanently injured. If the diseases to which such creatures are liable be not always acute, they do not assume a permanent character; for otherwise the animals would display that permanent variety of form which denotes a want of vigour. Some would have long backs and long limbs, and others short ones—some would be highly muscular, while others would appear attenuated. Wild animals are exposed to much disease under which many perish, but no extremity of suffering appears to lessen the vigour of the survivors.

Animal life is most powerful when in the condition intended by nature, but this sweeps away every individual whose natural vigour is permanently diminished. Nature erects her own standard for measuring the constitutional power of her creatures, and the individuals who no longer come up to this perish prematurely. If it were not so, whole races of wild animals would be permanently enfeebled by diseases resulting from famine. We know that however destructive the diseases engendered by this calamity may be, the moment the balance between the number of animals and the amount of food is restored, the survivors soon fill up the vacuum in their numbers, and that the vigour of a race is never permanently lowered.

It appears that any cause which essentially enlarges the natural stature of carnivorous animals injures the balance of vital and material power. We find in the human race that any extent of skeleton, or amount of muscle, which is unusually large, is rarely allied with a full amount of vital power. Still the man who has most muscle can make the greatest muscular exertion. If we change the nature of the trial, and render it one of time or privations, the greater vital power of smaller but well-formed men is apparent.

Armies in a campaign supply us with important facts on this subject. Grenadiers are useful in the assault, but they cannot compete with smaller men in long marches or under privations.

If a loss of vital power attends an amount of structure which is unusual in carnivorous animals, this is much more sensibly developed in those graminivorous ones whose food and habits have ceased to be natural. Every sportsman is acquainted with the different habits of hares which lie on Downs, and of such as lie in enclosures with their food close at hand. The Down hares are not entirely in a state of nature as they consume a factitiously rich food, but they have to travel some distance twice during the day to obtain it, and by this partial submission to the laws of nature they retain much of their natural stoutness. This is evinced by their sensible superiority when pursued over those which lie in the fields surrounded by their food. While the skeletons of the Down hares are smaller than those of the hares which occupy enclosures, the muscle of the former is better in quality and greater in amount on a given portion of bone.

We perceive the same phenomenon exhibited in the wild and the tame rabbit. The skeleton of the wild rabbit is smaller than that of the tame one, its muscle is firmer, and its constitutional vigour greater. These facts are further confirmed by the habits of animals whose food, though not altered in respect to quality, is obtained with less exertion than is natural. Foxes which live in districts where food is scarce are stouter than those which live where there is abundance of game.

Many facts have been recorded showing the extraordinary power of ponies for travelling fast and far—but these are so well known as to make it unnecessary to specify them here.

The account of the journey of that accomplished writer, Sir Francis Head, over the Pampas, shows what great tasks horses nearly in a state of nature can perform upon a grass diet. The horses of Hungary are nearly in a natural condition; they are well bred and work hard without ever getting corn or being housed. In Canada, it seems, the small horses of the country are found to travel great distances better than English horses. An Officer not long ago drove a sledge in Canada eighty-seven miles in six hours and a half, resting the next, and travelling upwards of forty miles on the third day.

Those who gain a livelihood by the daily toil of horses which work at a quick pace, are agreed in preferring those of low stature, if they be sufficiently strong and well-bred. In armies on service long marches are best performed, and severe privations submitted to, by small horses.

In cattle we shall presently find that those which are called on to make much physical exertion must be bred in conformity with natural laws.

It would be unprofitable to the majority of readers to pursue this subject further by reasonings of an abstract nature; enough has been said to prepare them for the facts, the illustrations, and the conclusions which follow. This work will commence with just so much reference to Cattle as will serve to render the subsequent observations on the horse more intelligible.

CATTLE.

CHAPTER I.

Contents:—*Our Dairy Cattle reared on much richer Land than our Grazing Cattle—the former appear to become soon deteriorated, while the latter appear to remain for ages in a State of Perfection—these Facts established by the recorded History of our Cattle.*

THERE are few facts recorded of our Cattle which refer to a period much more remote than the last seventy years; some of them however, are important. Our grazing Cattle are almost wholly bred on poor or indifferent lands, while our dairy Cattle are often reared on land of much richer quality. Cows in a state of nature, or upon poor pasturage, do not yield so much milk as in civilized and fertile countries is required. In a state of nature the udder and milk veins of the Cow are little developed compared with what they become when the animals are placed on richer pasturage, and under a system of continued selection for the single purpose of milking.

A breed of large dairy Cattle while not called upon to make any physical exertion, or submit to any privation, may continue for a considerable number of years to answer the purpose of the farmer. The buildings they require at one period of the year are expensive, and in these large animals are more economically stowed than small ones. There is much land too on which Cattle become subject to disease unless bred upon it. Whatever may be the causes which induce dairy Farmers to rear their Cattle often on land which forces them up to a large size, the history of these animals, so far as we are made acquainted with it, shows that their existence as a race is ephemeral, while the races which occupy poorer districts seem for the most part to have endured for ages. The richest pasturage in England on which Cattle are reared, lies on our North Eastern coast. Here the old short-horns, so many of which came annually to supply London with milk, were bred. They were large, long and coarse in the limbs, delicate and ill-shapen; requiring at all times expensive food, and fattening slowly; they gave a large quantity of milk, but this yielded little of either curd or butter. This race has been renovated within a few years by a cross with a hardier breed—with one in a more natural condition; and the produce is known by the name of the "new short-horns." This race is a great improvement upon the old one, and has spread itself into nearly all our dairy counties.

The race of long-horns which so lately occupied most of our rich dairy counties has just given way to the new short-horns. The long-horns had endured for no great length of time. Lisle who wrote towards the end of the seventeenth century says, that in his time the counties of York, Derby, Stafford, and Lancashire, were occupied with black cattle having wide-spreading horns. This race we may suppose continued for some time after the death of Lisle. The county of Gloucester is stated to have had a distinct breed of Cattle, which was changed about the middle of the last century for the long-horns, and these have recently given way to the new short-horns. All our dairy districts distinguished for somewhat rich pastures, have been compelled to change entirely, or renovate, their breeds of Cattle. Those dairy Cattle which occupy our poorer districts of pasturage keep their ground. The Welsh occupy much of the poor pasturage in the southern counties not fed by Sheep, and the long-horns in their almost natural condition are yet found on many of the bleak districts in the North of England.

There is every reason to conclude that nearly all our breeds of grazing Cattle have existed in their present form for ages. The most numerous of these are the Scotch and Welsh; they exist in a state little removed from one of nature, exhibiting excellent forms, and supplying us with unrivalled beef.

In a recent publication, called the "Farmer's Series," we find the following passage upon the Cattle of the Hebrides: "It may be supposed that in a group of Islands extending "nearly two hundred miles from north to south, there will "be considerable difference in the character and value of "the breed; but through the whole of them the striking "peculiarities of the Highland Cattle are sufficiently evi-"dent, except where they have been debased by the

" admixture of Irish blood. The principal difference is in " the size, and there the Cattle of the southernmost Island, " Islay, claim the superiority. This Island is sheltered by " its situation from the storms to which most of the others " are exposed, and the pasturage is better; the Cattle are " therefore earlier ready for the market, and attain a greater " weight. It is not, however, certain that this increase of " size would be of advantage on the northern islands, *or* " *even on the main-land;*—the Cattle, deprived of a portion " of their hardihood, would not be proof against the inclemency of the weather, and would starve on such scanty " forage as the Highlands in general supply.

" Breeders are so much aware of this, that they endeavour to preserve the purity and value of their stock " by selecting, not from the districts where the size has " increased, but, by almost a general consent, from the Isle " of Skye, where the cattle are small, but are suited to the " soil and to the climate, and can be most easily and " securely raised at the least expense; and, when removed " to better provender, will thrive with a rapidity almost " incredible."

“ The value of the West Highland Cattle consist in their “ being hardy and easily fed; in that they will live, and “ sometimes thrive, on the coarsest pastures; that they “ will frequently gain from a fourth to a third of their “ original weight in six month’s good feeding; *that the “ proportion of offal is not greater than in the most improved larger breeds; that they will lay their flesh and fat “ equally on the best parts; and that, when fat, the beef is “ closed, fine in the grain, highly flavoured, and so well mixed ‘ ‘or marbled, that it commands a superior price in every “ market.”*

“ Forty years ago the treatment of Cattle was, with very “ few exceptions, absurd and ruinous, to a strange degree, “ through the whole of the Hebrides. With the exception “ of the Milch Cows, but not even of the Calves, they were “ all wintered in the field; if they were scantily fed with “ hay, it was coarse, and withered, and half-rotten; or if “ they got a little straw, they were thought to be well taken “ care of. The majority got little more than sea-weed, “ heather, and rushes. One-fifth of the Cattle, on an “ average, used to perish every winter from starvation.

" When the cold had been unusually severe, and the snow " had lain long on the ground, one-half of the stock has " been lost, and the remainder have afterwards been thinned " by the diseases which poverty had engendered. It " proved the excellency of the breed, that in the course of " two or three months so many of them got again into good " store condition, and might almost be said to be half fat, " and could scarcely be restrained by any fence; in fact, " there are numerous instances of these Cattle, which had " been reduced to the most dreadful state of impoverishment, becoming fattened for the butcher in a few months, " after being placed on some of the rich summer pastures " of Islay, Lewis, or Skye."

Here we find it admitted that no degree of privation which does not destroy life can diminish the constitutional vigour of these Cattle. This contrasts strongly with the effect of low diet upon the large dairy Cattle of England. Every one practically acquainted with these knows, how difficult it is to restore them in the summer after they have been allowed during the previous winter to sink into low condition.

The Welsh Cattle differ somewhat from the Scotch, and for grazing are inferior; but they are hardy and useful. The pure Devons are probably indigenous; the uniformity of their appearance with their hardiness and activity in the yoke, assure us that they are an ancient and still vigorous race. The Hereford is a variety of the Devon, whose history is unknown. These two breeds are not reared on rich land, but they occupy better pastures than the Welsh and Scotch.

A rich pasturage is valuable for rendering Cattle fit for the Butcher, but not for rearing them. With one exception, every breed of grazing Cattle in the three kingdoms is reared on either bad or indifferent pasturage. The Durhams are the only grazing Cattle we possess which are reared on rich pasture. This is a new variety inferior to the Herefords, though more costly to rear. It is handsome, and when supplied with rich food the animals become very fat. This race is confined to a small portion of the kingdom, and there is no prospect of its extending further. Our flesh market has ever been mainly supplied with Cattle which are reared on indifferent land. The fattest animals have often very little vigour—they are always fat on rich food, but they are not duly nourished on indifferent food. The Scotch Cattle, after being reared on poor pastures, are found to feed well on our rich ones. Whilst the best Scotch are every thing that can be desired when brought to rich land, less hardy cattle cannot take their place on bad land.

CHAPTER II.

CONTENTS:—*Theory published by Mr. Cline—Mistake to which this Publication gave rise illustrated by the Practice of those who breed the Devon and Hereford Oxen.*

A PAPER published some years ago by that eminent Surgeon, the late Mr. Cline, having exercised a pernicious influence; it is necessary to refer to it. The object of Mr. Cline's Treatise was to point out what he considered to be the advantage of breeding from large females. This gentleman had Horses and Cattle principally in view—he writes as follows:—

"The proper method of improving the form of animals "consists in selecting a well-formed female proportionally "larger than the male. The improvement depends on this "principle, that the power of the female to supply her "offspring with nourishment is in proportion to her size,

“ and to the power of nourishing herself from the excellence of her constitution.

“ The size of the fœtus is generally in proportion to that “ of the male parent; and, therefore, when the female “ parent is disproportionately small, the quantity of nourishment is deficient, and her offspring has all the disproportions of a starveling. But when the female, from her size “ and good constitution, is more than adequate to the “ nourishment of a fœtus of a smaller male than herself, “ the growth must be proportionately greater. The larger “ female has also a greater quantity of milk, and her “ offspring is more abundantly supplied with nourishment “ after birth.

“ To produce the most perfect-formed animal, abundant “ nourishment is necessary from the earliest period of its “ existence until its growth is complete.

“ It has been observed, in the beginning of this tract, “ that the power to prepare the greatest quantity of nourishment, from a given quantity of food, depends principally on the magnitude of the lungs, to which the organs “ of digestion are subservient.

“ To obtain animals with large lungs, crossing is the “ most expeditious method, because well-formed females “ may be selected from a variety of a large size to be put “ to a well-formed male of a variety that is rather smaller. “ By such a method of crossing, the lungs and heart be- “ come proportionately larger, in consequence of a pecu- “ liarity in the circulation of the fœtus, which causes a “ larger proportion of the blood, under such circumstances, “ to be distributed to the lungs than to the other parts of “ the body; and as the shape and size of the chest depend “ upon that of the lungs, hence arises the remarkably large “ chest which is produced by crossing with females that are “ larger than the males.

“ The practice according to this principle of improve- “ ment, however, ought to be limited; for it may be car- “ ried to such an extent that the bulk of the body might be “ so disproportioned to the size of the limbs, as to prevent “ the animal from moving with sufficient facility. In ani- “ mals where activity is required, this practice should not “ be extended so far as in those which are intended for the “ food of man.”

The reader will pay attention to Mr. Cline's second sentence, which states that " the improvement depends upon " this principle, that the power of the female to supply her " offspring with nourishment is in proportion to her size, " and to the power of nourishing herself from the excellence " of her constitution."

We cannot doubt that the power of the female to supply her offspring with nourishment depends on the excellence of her constitution. Mr. Cline could not have written his treatise to state such a fact as this. That which is new in his theory is the affirmation that the power of the female is dependent upon the greatness of her size.

Large and small are unintelligible terms unless accompanied by a distinct definition. It is unsatisfactory to hear Horses and Cattle, which are divided by nature into many classes, displaying different forms and characteristics, described as belonging to a common class; or admitting their varieties, to be called on to measure the proportions of their structure by a common standard.

Neither the activity or vigour of an animal can be measured by the absolute capacity of its chest; this must be judged of in reference to the animal's race, and by the more or less of structural enlargement which has been given to it by the interference of man.

If Mr. Cline's theory were right it would go to this—that every distinct race of Cattle or Horses in a state of nature is imperfect, not merely for the purposes of man (for that is not Mr. Cline's proposition) but for the purposes of nature. "To obtain animals with large lungs, "crossing is the most expeditious method, because well-"formed females may be selected from a variety of a large "size to be put to a well-formed male of a variety that is "rather smaller." This is affirming that no natural race is perfect—that to make a natural race perfect even for the purposes of nature, we must select females from a large variety of their species and males from a small variety;—thus reversing the proportions determined on by nature. How comes it that the Stag, the Fox, and the Wolf are so fleet and stout in their natural condition without crossing the females of one variety with the males of another? How are we to account under Mr. Cline's theory for the stoutness of Ponies of an unmixed and good race? In all these races the males are much larger than the females, yet we know that the lungs of these must perform their functions admirably. Let the reader remember that Mr. Cline's theory does not refer to a stature which is artificial but to one which is natural.

Mr. Cline concludes in these words:—"It is wrong to "enlarge a native breed of animals; for in proportion to "their increase of size they become worse in form, less "hardy, and more liable to disease." We must presume then that Mr. Cline considered the stature of the Horses and Cattle by which he was surrounded as natural.

Without being acquainted with the peculiarity in the circulation of the fœtus to which he so obscurely alludes, we cannot doubt that its nourishment depends upon the quality of the general mass of blood in the circulation; and that this again is dependent upon the constitutional vigour of the animal. No one will assert that the heart beats with more force in an animal after its stature has been artificially enlarged. Supposing this force to be the same in the natural and the factitiously enlarged animal, it is clear that the blood will not be sent to the extremities of the latter with the same force which it is to the extremities of the smaller and more natural animal. Supposing the heart to beat with the same force in the two cases, the task which it has to perform in the larger female is greater than in the smaller one; and this in exact proportion to the greater extent of surface over which the blood has to travel.

The principal ground on which Mr. Cline attempts to found his theory is the fact " that a large Cow yields more " milk than a small one." This fact affords Mr. Cline no support. The quality of milk for the purposes of nature is more important than its quantity. The most vigorous breeds of Cattle give the smallest quantity of milk, while those which yield most milk are comparatively delicate. Not only do the small Scotch Cattle afford little milk, but the mothers of the large Devon and Hereford Oxen are characterized by the small quantity of this fluid which they yield. The poor and scanty food which Cows find in a state approximating to one of nature, enables them to nourish the most vigorous offspring.

That able physiologist, Mr. Knight of Herefordshire, in a letter which he many years ago addressed to the Board of Agriculture, alludes to the great difference in the size of the Cows and the Oxen of that county. He appears in this publication to take just pride in the Oxen of this his own county, but he seems ashamed of the Cows. He thus writes, "the Herefordshire breeders seem unanimously "agreed that a very large Cow, however well-formed and "perfect in every respect, rarely produces a good Ox; "and they therefore justly disregard the weight and intrinsic value of their Cows, reckoning those the best "which experience has taught them are best calculated to "produce good Oxen. Thus it follows that the Herefordshire Ox is a very superior animal to the Cow, often "attaining double the weight. I do not, however, admit "but that this county can show as beautiful Cows as any in "the island, but it is the Ox on which it prides itself, and "stands, I am confident, without a rival."

If so able a man as Mr. Knight could overlook the nature of the necessity which obliges the Herefordshire Farmers to maintain this great distinction between the size of their

Cows and that of their Oxen, we cannot wonder at finding this principle so generally disregarded.

The Author of the "Farmer's Series" is an admirer of Mr. Cline's theory, and a stout advocate for what he calls "roomy Cows" and "roomy Mares," and he is in consequence much puzzled by the smallness of the Herefordshire Cows.

He thus writes—"*The Hereford Cow is apparently a* "*very inferior animal. Not only is she no milker, but even* "*her form has been sacrificed by the breeder.*"

"Herefordshire is more a rearing than a feeding county, "and therefore the Farmer looks mostly to the shape and "value of his young stock; and in the choice of his Cow, "he does not value her, or select her, or breed from her "according to her milking qualities, *or the price which the* "*grazier would give for her*, but in proportion as she pos-"sesses that general form which experience has taught him "will render her likely to produce a good Ox. *Hence the* "*Hereford Cow is comparatively small and delicate, and* "*some would call her ill-made. She is very light-fleshed* "*when in common condition, and beyond that, while she is*

" *breeding, she is not suffered to proceed; but when she is* " *actually put up for fattening, she spreads out, and accu-* " *mulates fat at an extraordinary rate.* Our cut gives us " the portrait of a beautiful Cow, once belonging to the " Earl of Egremont."

" The breeder has been taught by experience, that when " the Cow, *although she should be somewhat roomy,* is too " large and masculine, the Ox will be brawny and coarse, " and perhaps *a little sluggish at work, and even somewhat* " *unkind and slow in the process of fattening*, and these are " objections which, most of all, he would be unwilling to " have justly made. The Herefordshire Cow is therefore " *somewhat undersized; and it not unfrequently happens* " *that she produces a bull-calf that grows* TO THREE TIMES " HER OWN WEIGHT."

Here then is a fact well established which sets at rest the theory of Mr. Cline. Either at least Mr. Cline is mistaken in his theory, or the breeders of Herefordshire and Devonshire Cattle are mistaken in their practice. As long however, as the Oxen bred in those counties exhibit activity in the yoke, united with their present aptitude to fatten at a reasonable expense, we must conclude that those who breed them are right, and that Mr. Cline was wrong.

Mr. Lawrence, in his work on Cattle, makes some extracts from a paper written by the late Lord Somerville describing the qualities of the Devonshire Cattle. That nobleman writes as follows:—

"To describe the breed not as they might be, in imaginary individuals, but as they really are found, it may in "general be observed speaking of this, as of all other "breeds, that conclusions must not be drawn from the "shape and size of the Bulls, but from the general quality "of their stock." Certain it is that individually handsomer "Bulls are often to be found in other breeds; and it is certain "that this race, of which the whole produce is brought to "view, stands the confessed favourites, or amongst the very "first, at Smithfield, where prejudice cannot find the way."

In another place this writer says, "Generally speaking "the Bulls are relatively to Oxen not of a large size in "general; and it should be observed respecting size in "general, that nature operating in food and climate is im"perious, and will produce Oxen proportioned to those

“ two circumstances in due course of time, whatever may
“ have been originally the size of the Bulls and Cows.”

Lord Somerville did not express his meaning in these extracts very clearly: but looking to the context it is evident that he thought the parents of the Devon Oxen, as compared with the Oxen, shabby-looking animals.

It is probable that the Devon and Herefordshire breeders are kept in the right course by the practice of using their Oxen in the yoke. If these lose their activity, their hardiness, and much of their aptitude to fatten, when bred from large females; such facts are important, and should be kept in view while investigating the means best calculated to maintain the vigour of Cattle and Horses when domesticated.

RACE-HORSE.

CHAPTER I.

Contents:—*The great Tasks performed by the Race-horses of the last Century—their useful Symmetry, and the long Time they remained on the Turf—the small Tasks performed by modern Race-horses, their bad Symmetry, and the short Time they remain on the Turf.*

THE Race-horse exercises a preponderating influence over the character of our saddle-horses, and as our first object is to show that it has become deteriorated, it will be advisable to proceed at once to the facts on which this opinion rests. There is no document showing the running on the "turf," dated earlier than the beginning of the last century; from that time until near the close of it, we learn that the running at Newmarket demanded a combination of speed, stoutness and structural power in the Horses. It is said that this running was too severe; but no evidence has been adduced in support of this assertion, while important facts lead to a contrary conclusion. Physical exertion is severe or easy according to the power of the animal which has to make it. The best evidence of the early racers being less distressed by their great performances than are the modern racers by their small ones is, that the former remained considerably longer on the turf. A single race like that of the Derby, often now disables the winner from running again; yet the distance is only a mile and a half. The St. Ledger is yet more destructive to the winner, though the distance is said to be less than two miles.

The following extracts taken from a published account of the running at Newmarket from 1718 to 1764, show how much greater were the tasks performed in the last than in the present century.

Newmarket, October, 1718.—Twenty-three matches were made, and in all but one of them the distance was four miles.

"In April, 1719, the Duke of Wharton's Chanter against Lord "Bridgwater's Nutmeg, eight stone, six miles, 300 guineas. Nutmeg "being lame did not run. On the 30th of April the Duke of Whar-"ton's Galloway, 8 st. 10 lb. against Lord Hillsborough's Fiddler, "12 st., six miles, 200 guineas. The Duke gave 140 guineas to be off "the match."

1720.

"At Newmarket there were twenty-six matches, none of them less "than four and some six miles. In October, the Duke of Wharton's "Coneyskins, 11 st. 10 lb. against Lord Hillsborough's Speedwell, "12 st. The best of three heats, *twelve miles*, 1000 guineas. The "match was drawn.

1721.

Twenty matches were run or paid forfeit, and with few exceptions these distances seem to have been run up to the year 1757. In the April meeting of this year, besides several plates, twenty-one matches and sweepstakes were run, and in all of them but two the distance was four miles.

The published accounts from which these performances are taken refer only to the short period mentioned, and no consecutive account of the running even at Newmarket appears to have been kept until late in the last century. We have selected, however, the chronicled performances of a few Horses. One of these, called *Exotic*, commenced his running 1760, and continued on the turf to the year 1761.

We know not how many times this Horse started during this period; but in the course of it he won eighteen times. The account says that he won in 1767, which was his seventh year on the turf, a race at Peterborough, consisting of four heats; the distance of the other races which he won are not stated, but they probably were not less than four miles.

Cartouch was only fourteen hands high, but it is supposed that no Horse was able to run with him of his time, carrying from eight to twelve stones of weight!

In 1737 *Black Chance*, at five years old, won a plate at Durham, carrying ten stone—with the same weight he won the Ladies' Plate at York in that year—distance four miles. In 1738 he won the King's plate at Guildford, beating several Horses. After this he won the King's plate at Salisbury; then the King's plate at Winchester; afterwards the King's plate at Lewes; and, lastly, the King's plate at Lincoln:—all these in the course of one season; every race four miles, and every race contested!

It appears that in the October of the same year this Horse started for the King's plate at Newmarket, when he fell in running—this was the only time he was beaten that year. In 1739 he seems to have won twice. In 1740 he won at Wrexham, at Shrewsbury and at Oswestry, carrying 13 st.; he won at Denbigh carrying 12 st.—he won, in short, every time that he started in this year. In 1741 he won at Chester, at Manchester and at Hereford. In 1742 he received a £15 premium at Chester, and won at Manchester. In 1744 he walked over for the annual plate at Farnden. It does not appear whether this Horse run in 1738, but if he did, he was running and winning seven years consecutively.

The following extract is taken from an account of a Horse called the *Carlisle Gelding*. "He had no rival in carrying all degrees of weight, "in supporting repeated heats, travelling and constant running, and "this maintained to an age seldom heard of."

Johnny, a Horse of a more recent period, won or received forfeit twenty-five times!

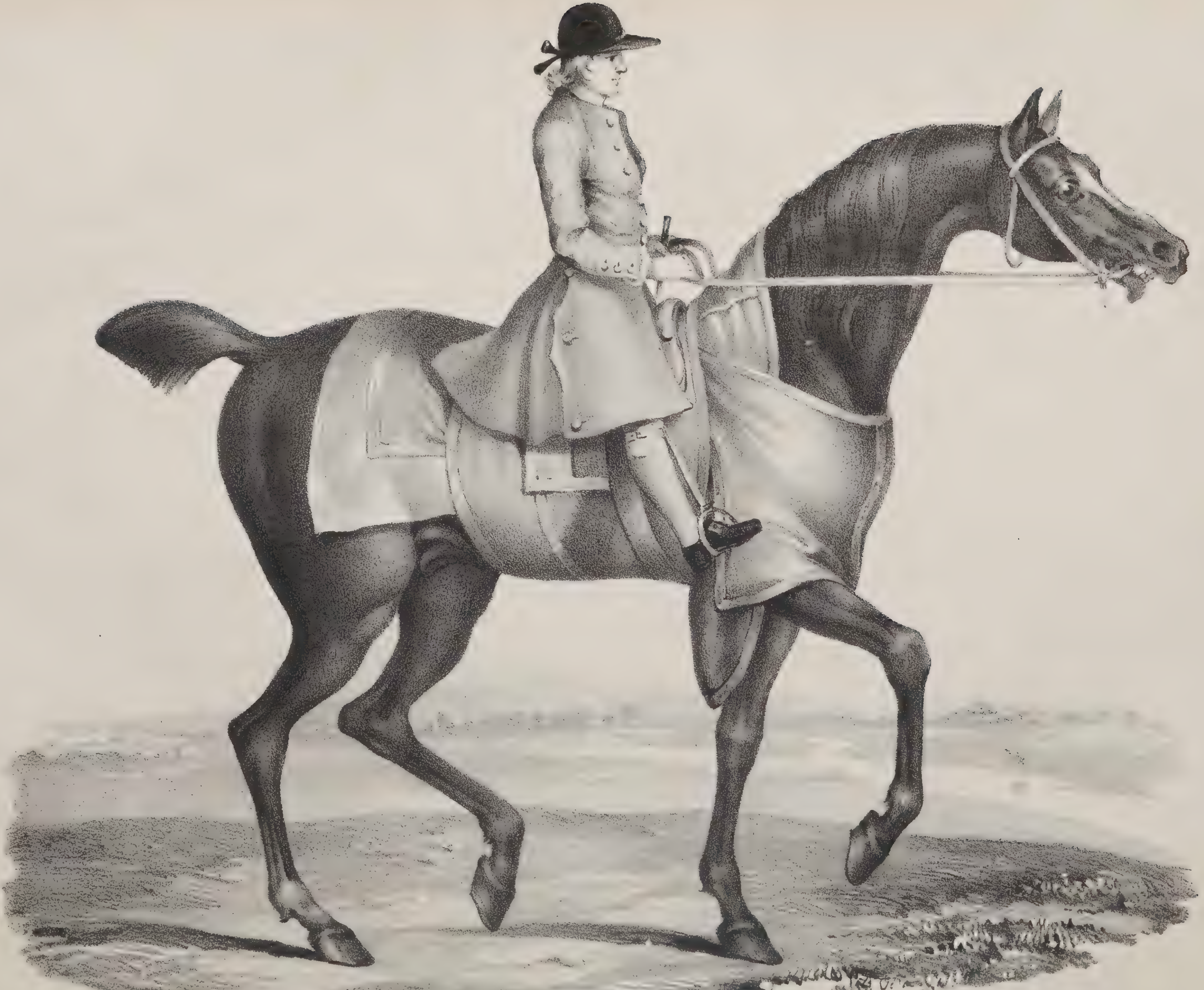
This account of the running at Newmarket from 1718 to 1764 is interesting, showing how great were the tasks at that time performed, and how little they appeared to press upon the physical power of the Horses.

Having seen the nature of the tasks performed during the last century on the turf, we will proceed to examine the Portraits of some of the Horses which performed them.

Seymour seems to have been the first painter of the Racer whose Portraits are entitled to attention.

PLATE I. is the Portrait of a celebrated Racer called OLD PARTNER, who was foaled in 1718. Although much of this Horse's form is concealed by clothing, we see that it is compact and that the chest was capacious.

Pl. II.



Seymour del. M. Gauci lithog.

SEDBURY.

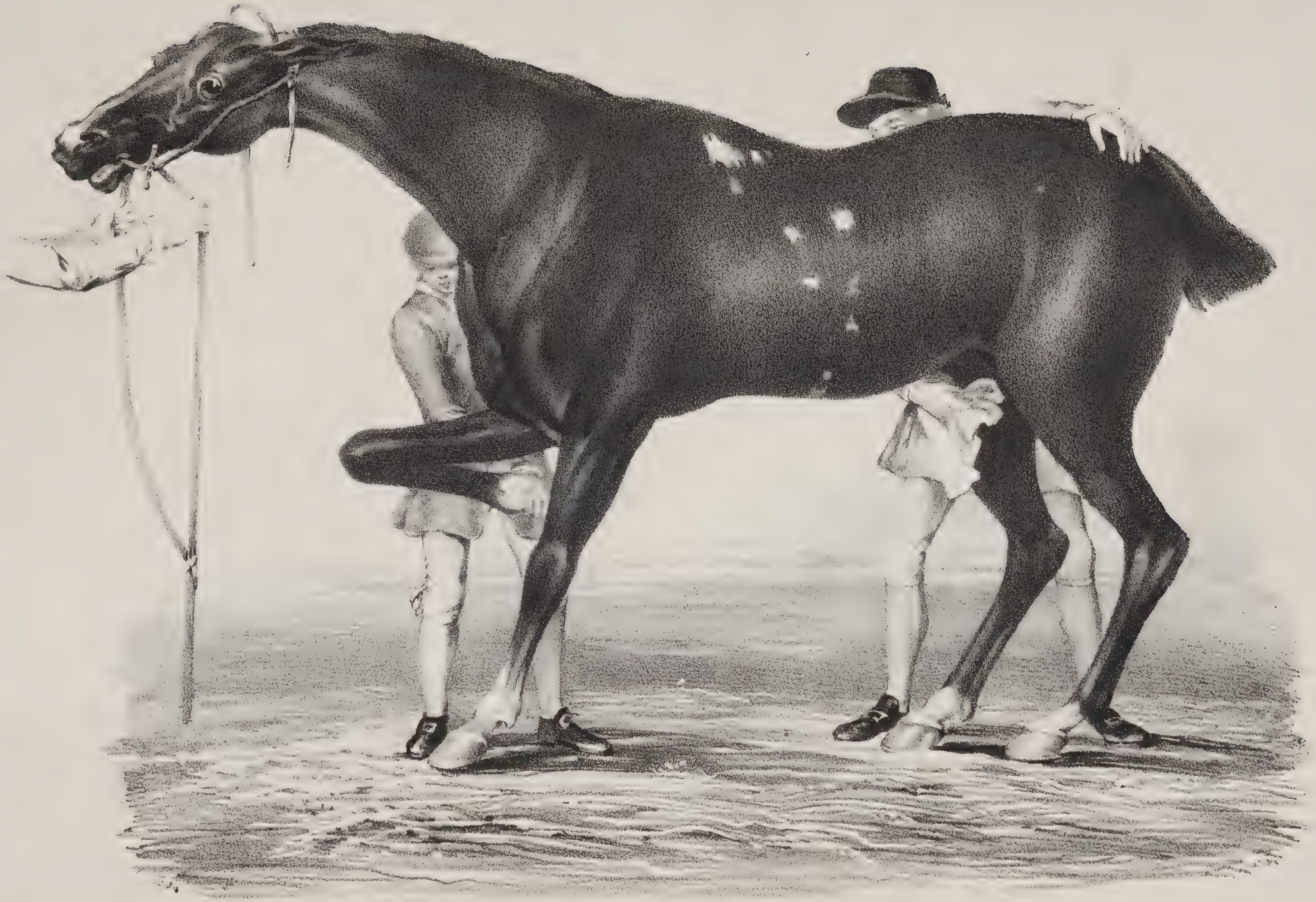
PLATE II. is the Portrait of a celebrated Racer called SEDBURY, a son of the preceding Horse, and foaled in 1734. This Horse, though a successful Racer when the tasks performed were severe, was evidently able to carry a great weight. His body in this Plate is a good deal concealed, but his powerful stifles, fine limbs, and general bearing, make us regret our present inability to produce such an animal. This Horse, like the preceding one, was painted by SEYMOUR.

PLATE III. is the portrait of a Racer painted by SEYMOUR, name unknown. The form of this horse is fully displayed, and it is just that which we might expect to find at a time when the tasks performed demanded a fine union of speed, stoutness, and structural power. These three portraits are valuable, because the only ones we have been able to find until the time of Stubbs which are worthy of attention. They lead us to suspect that in these and later racers there was a small but influential admixture of English blood.

When the "Turf" was first organized into a system of racing, Ponies were selected for this amusement, and they were probably native ones. Oriental horses were not used on the turf until much later: they were of small stature, and were long called Galloways. Curwen's celebrated Barb is stated to have been little more than thirteen hands high. The natural speed of the Horse seems greatest at its natural size. Ponies little more than thirteen hands high are yet the fleetest animals of the species in the East.

It was reserved for the English turf to unite in the Horse more speed and more structural power than are natural. In the recorded account left us of the running during the period when oriental horses were imported for the turf, we see nothing said of their success as racers, but much of that of their immediate offspring. These foreign Horses appear to have been crossed in the first instance with those they found in possession of the turf, and something seems to have been gained by

Pl. III.



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Printed by C. Hullmandel

RACER. (*NAME UNKNOWN.*)

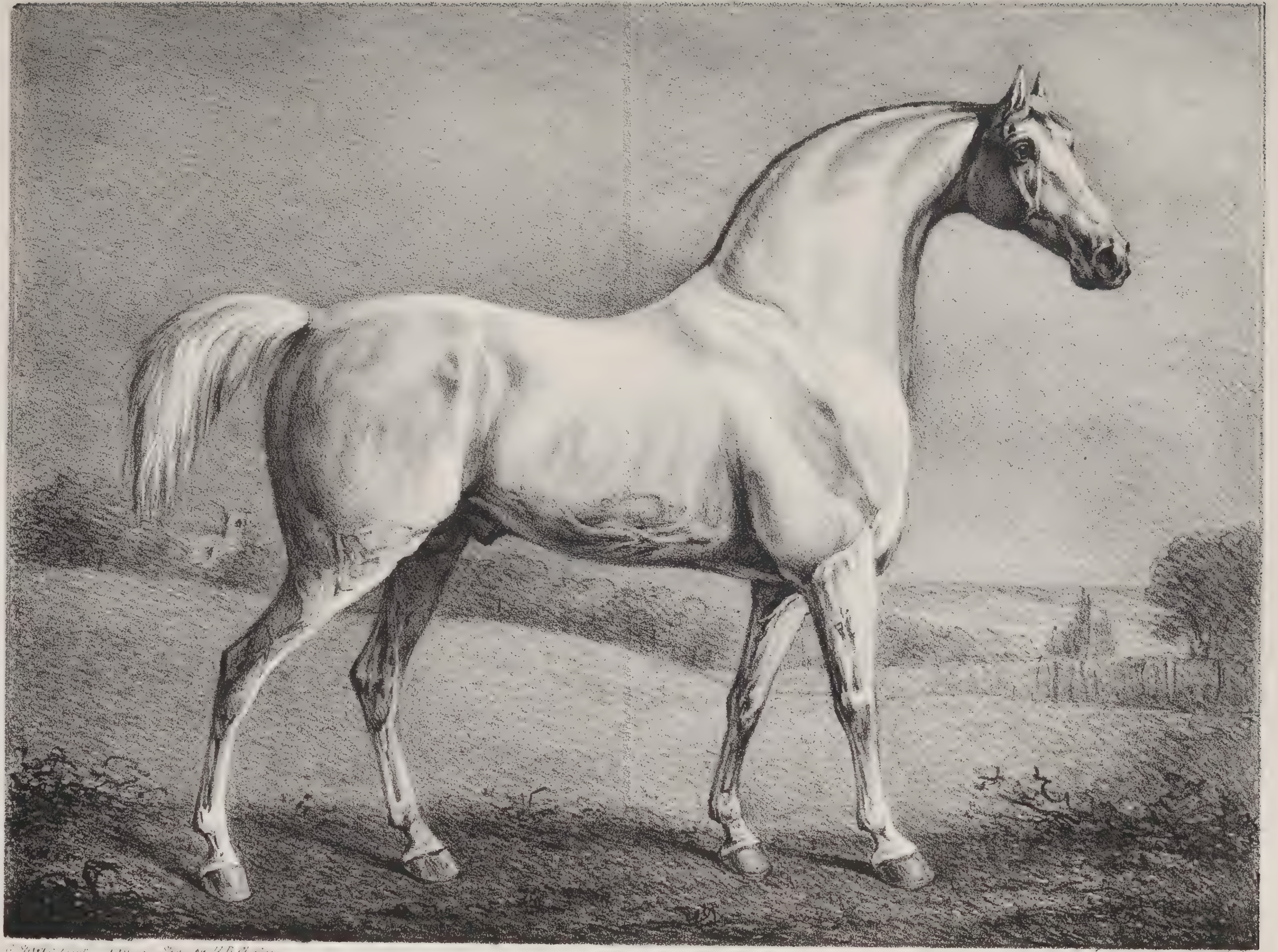
this cross which could not be obtained without it. It is difficult to suppose that without some cross the oriental horses should so early as 1718 have lost the material characteristics of their race.

We will now proceed to consider later Horses, as painted by Stubbs. The fidelity of this excellent artist is attested by many persons yet alive.

PLATE IV. is the portrait of a celebrated Racer, called MAMBRINO, foaled in 1768, and painted by STUBBS. The symmetry of this Horse was excellent, being compact and powerful without displaying the smallest symptom of coarseness in the skeleton; and as he was a successful racer, we must conclude that the quality of his muscle was good. The capacious chest, strong loins, delicate but good limbs of this horse, could only be obtained from parents which had much vigour without coarseness. Looking to the nature of this horse's race, it is clear his muscular power had reached the utmost limit to which it could be beneficially pushed. The offspring of this admirable horse would require to be narrowly watched, so that when any defect became apparent the proper remedy might be applied. As an individual intended for the general breeder,—for those who produce our saddle horses,—Mambrino was admirable; but his great muscular power was not required for the purposes of the turf, and was scarcely compatible with the nature of his race. If we attempt to give to a speedy and stout race of horses the great structural power of a coarse one, we are attempting to unite qualities which experience has proved to be incompatible in a race, though often found in individuals.

Nothing could have enabled our ancestors to continue the production of such individuals as Mambrino, but recurring frequently to the blood of horses which yet continued at a more natural stature. Had our ancestors been compelled to breed from a whole race having its stature

Pl. IV.



[illegible] Drawn on Stone by H. B. Chalon

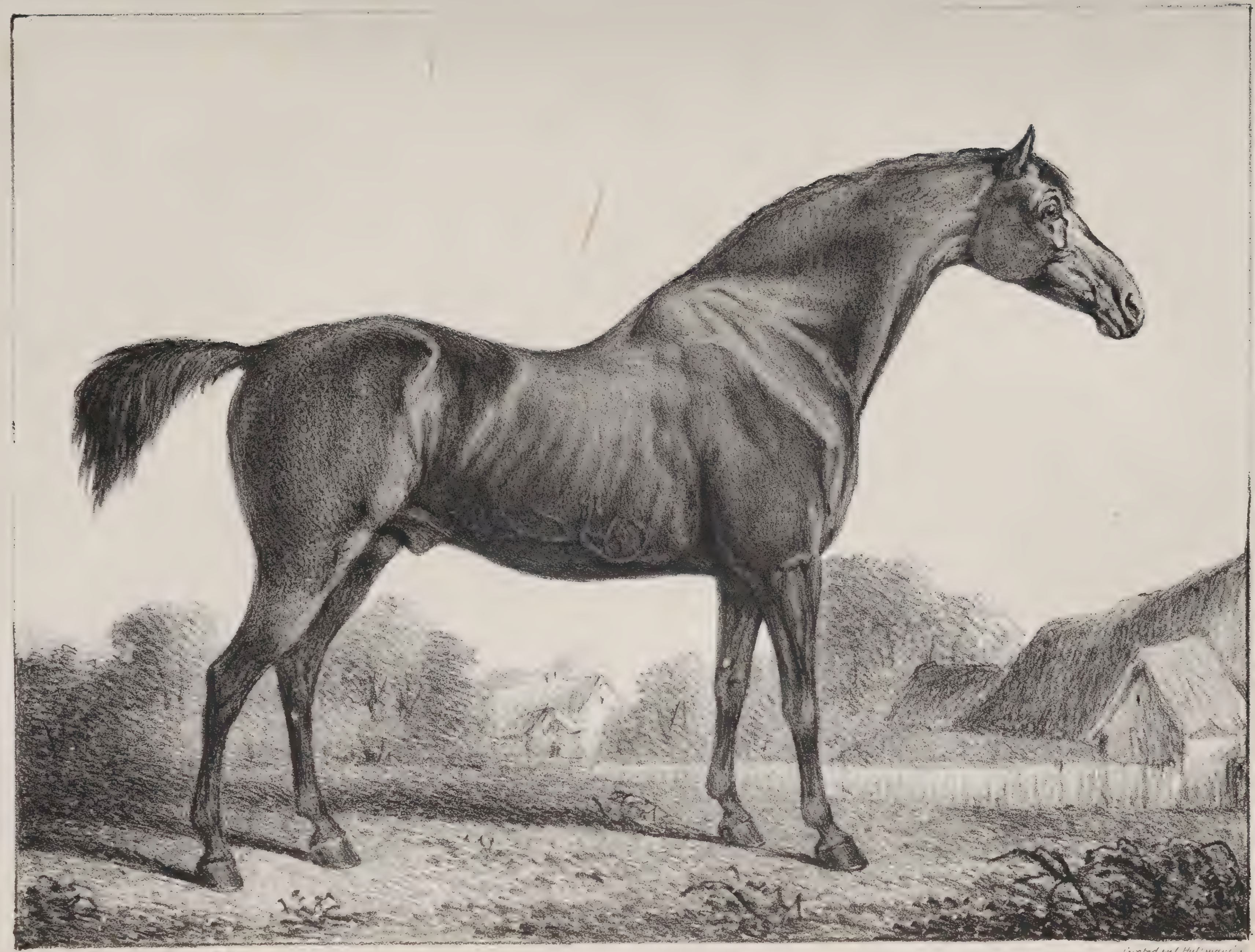
Printed by C. Hullmandel

MAMBRINO.

as much enlarged as that of Mambrino, every desirable property would have been quickly lost; but the test by which the animals were tried was too searching, and the object of the breeders too important, for such a result to occur. Having a great number of horses, they had much choice, and they thus long continued to breed only from those which preserved their racing properties.

The reader will perceive that Mambrino was not in working condition, but was in that fleshy state in which stallions are usually kept. This made his neck look thicker than it would have appeared had he been in working condition. The neck of a stallion, however, ought to be very muscular, but the muscle in working condition must be specifically strong, and the limbs must on no account be coarse. The joints in the fore legs should be large in proportion to the shank bones; these in horses of a fine race should not be heavy; but the sinews should be large and dense.

PLATE V. is the portrait of a Racer, called SWEETBRIER, foaled in 1769, and painted by STUBBS. This Horse was a fine specimen of an artificial enlargement of structure. He was an excellent racer, and eminently calculated for the general breeder. His chest appears to have been ample, his shoulder-blades well inclined and long, and covered with a great mass of muscle. We can only judge of the amount of true muscle in the living animal when it is in a condition fitted for severe exertion. Such was the state of this Horse; every one of his ribs, not masked by the shoulder-blades, is distinctly seen. He was not so powerful as Mambrino, but he was well fitted for the general breeder.



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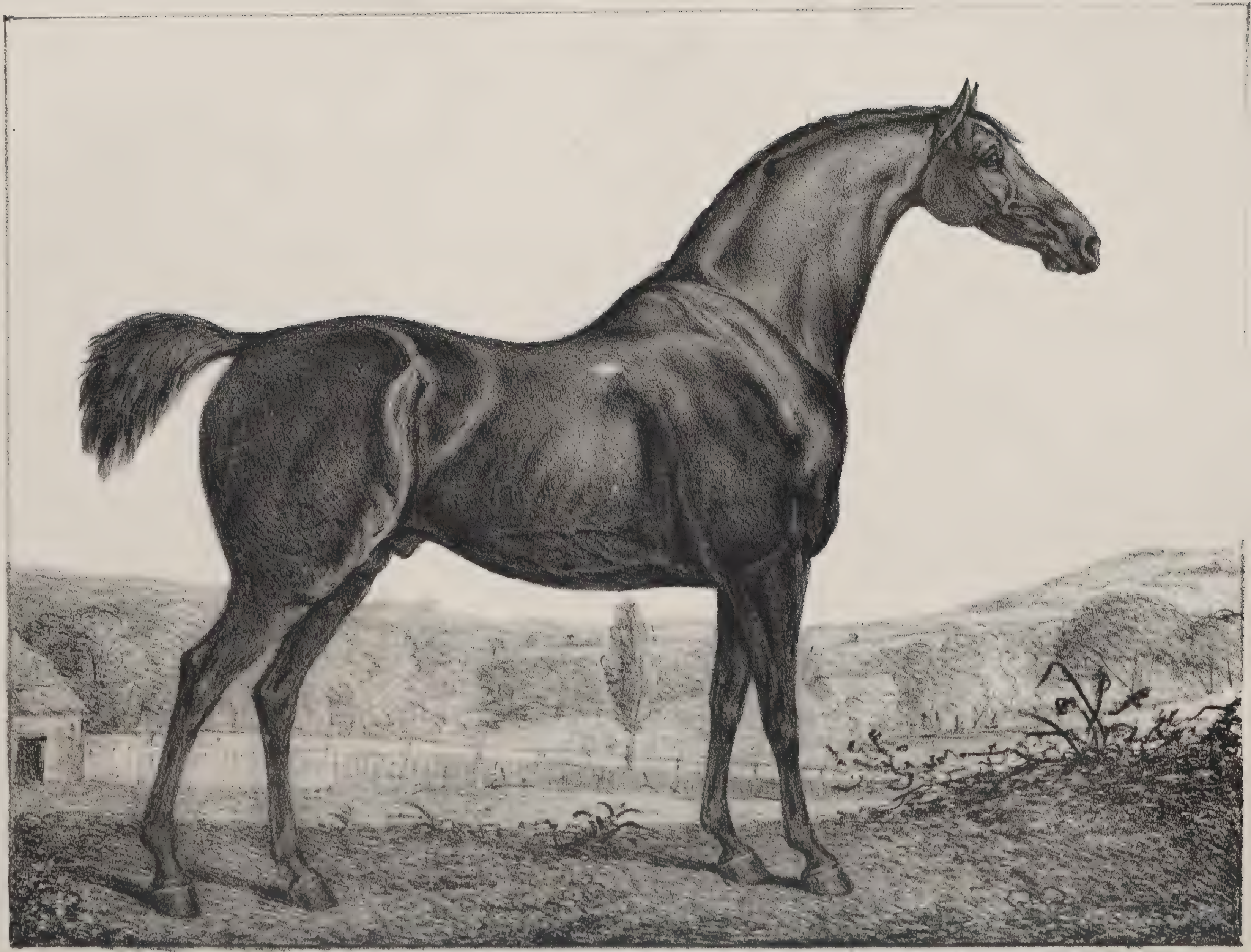
Printed by C. Hullmandel.

SWEETBRYER.

Pl 6



George Stubbs pinx Drawn on Stone by [illegible]

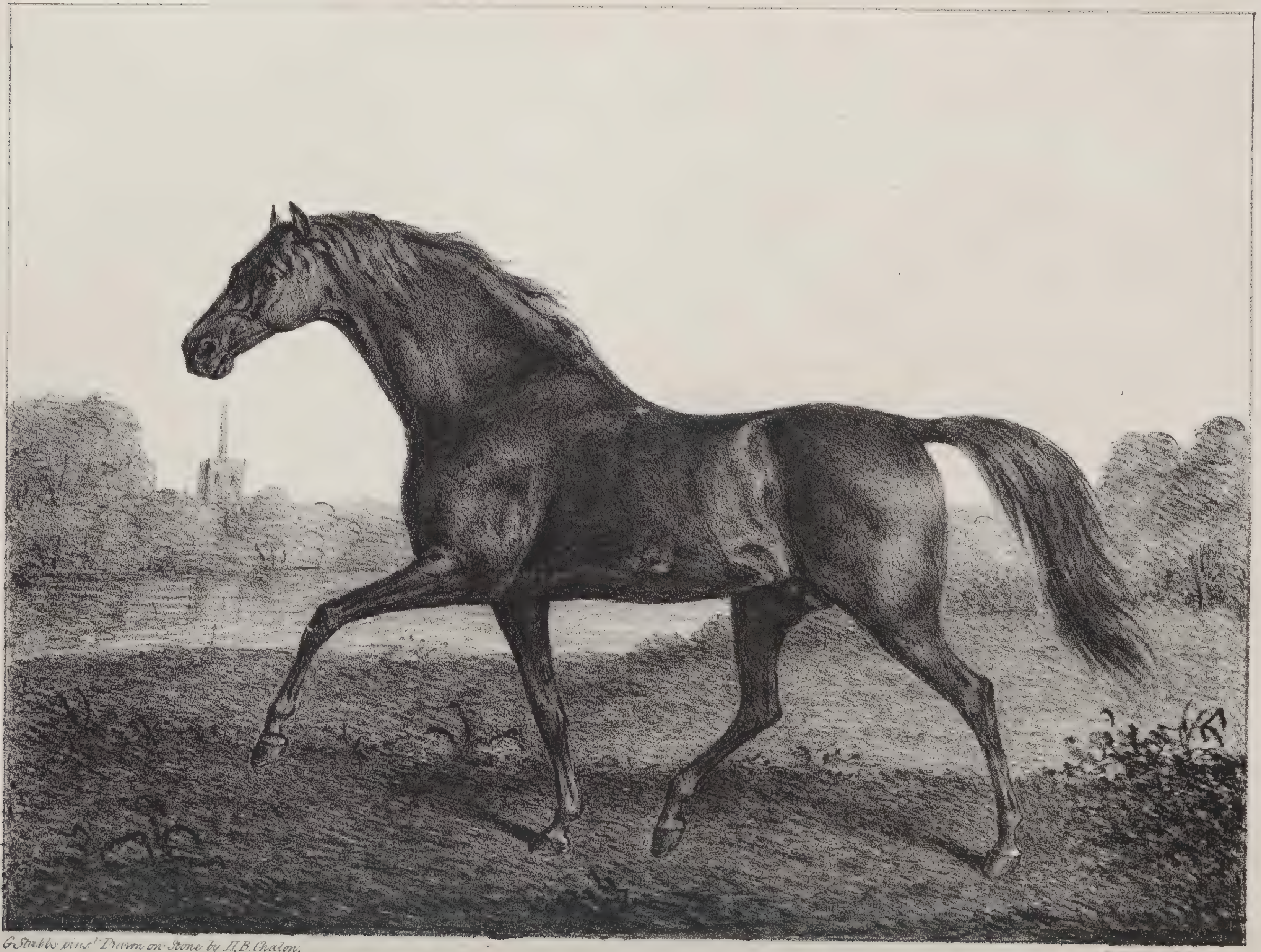
SWEET WILLIAM.

PLATE VI. is the portrait of a good Racer called SWEET-WILLIAM, foaled in 1768, and painted by STUBBS.

This Horse was well calculated for the general breeder: he could only have been produced by parents full of vigour and without coarseness. The expanded chests and muscular necks of these stallions denoted the greatness of their vigour. They had doubtless not acquired the highest amount of speed attainable under long continued selection. It might, or it might not be desirable, in a national point of view, to increase further the speed of these Horses, which were the best runners of their time A further increase of speed would be attended with a corresponding change of structure, and with a diminished amount of muscular power. The withers would not have risen so high, the line of the back would have been straighter, and the neck less elevated, while this and the whole frame would have become less muscular. It is impossible to unite in a single race of the Horse a great amount of natural qualities, with the highest degree of some acquired properties.

PLATE VII. is the portrait of a successful Racer called VOLUNTEER, foaled in 1780, and painted by STUBBS.

The compact, vigorous, and muscular form of this Horse was capable of being turned to good account by the general breeder. He was quite large enough for the turf, and for other purposes any portion of his offspring could have been easily enlarged.

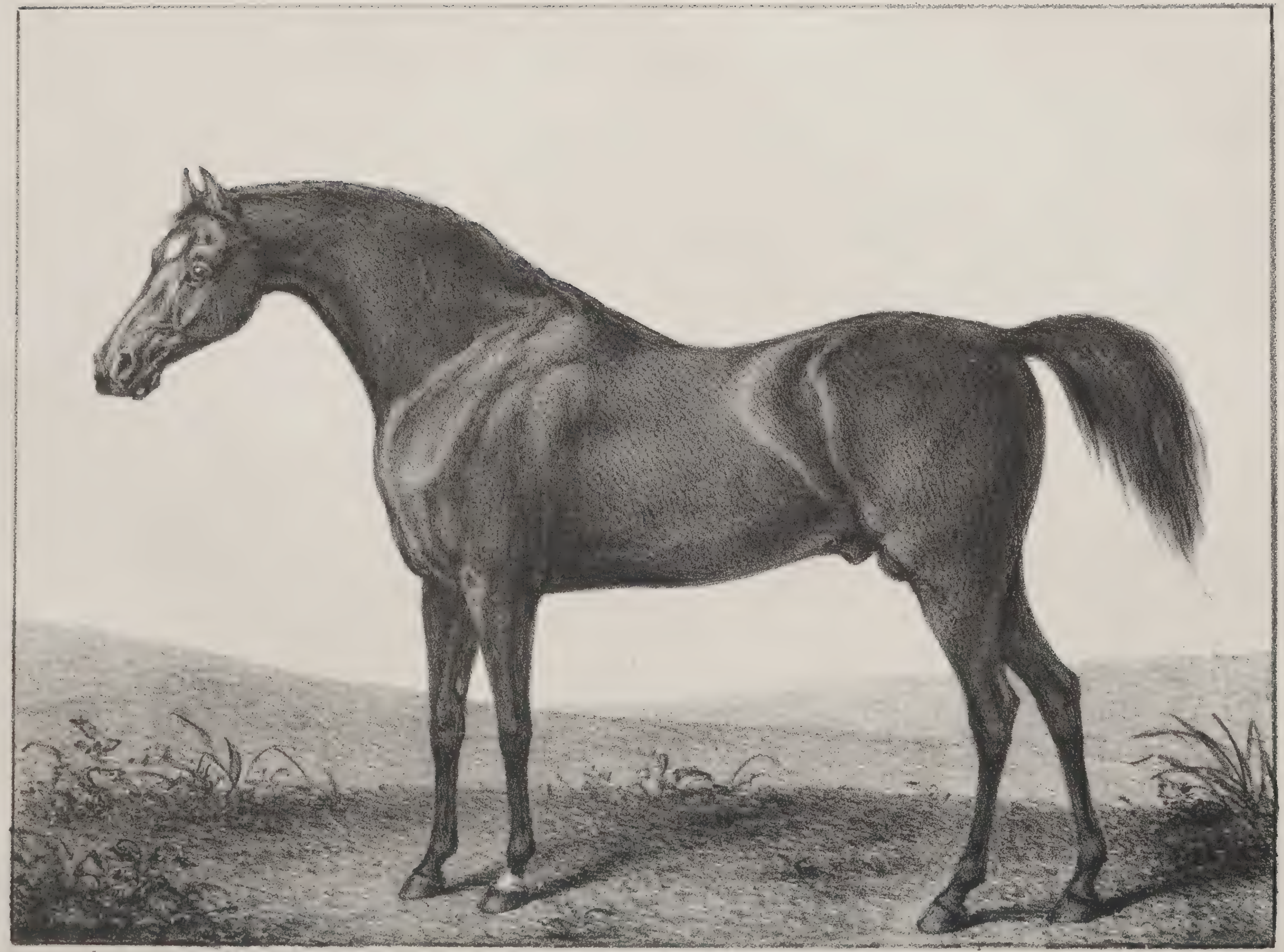


G. Stubbs pinx^{t} Drawn on Stone by H. B. Chalon.

Printed by C. Hullmandel

VOLUNTEER.

Pl 8.



G. Stubbs pinxt. Drawn on Stone by H. [illegible] [illegible]

PROTECTOR.

PLATE VIII. is the portrait of a successful Racer called PROTECTOR, foaled in 1770, and painted by STUBBS.

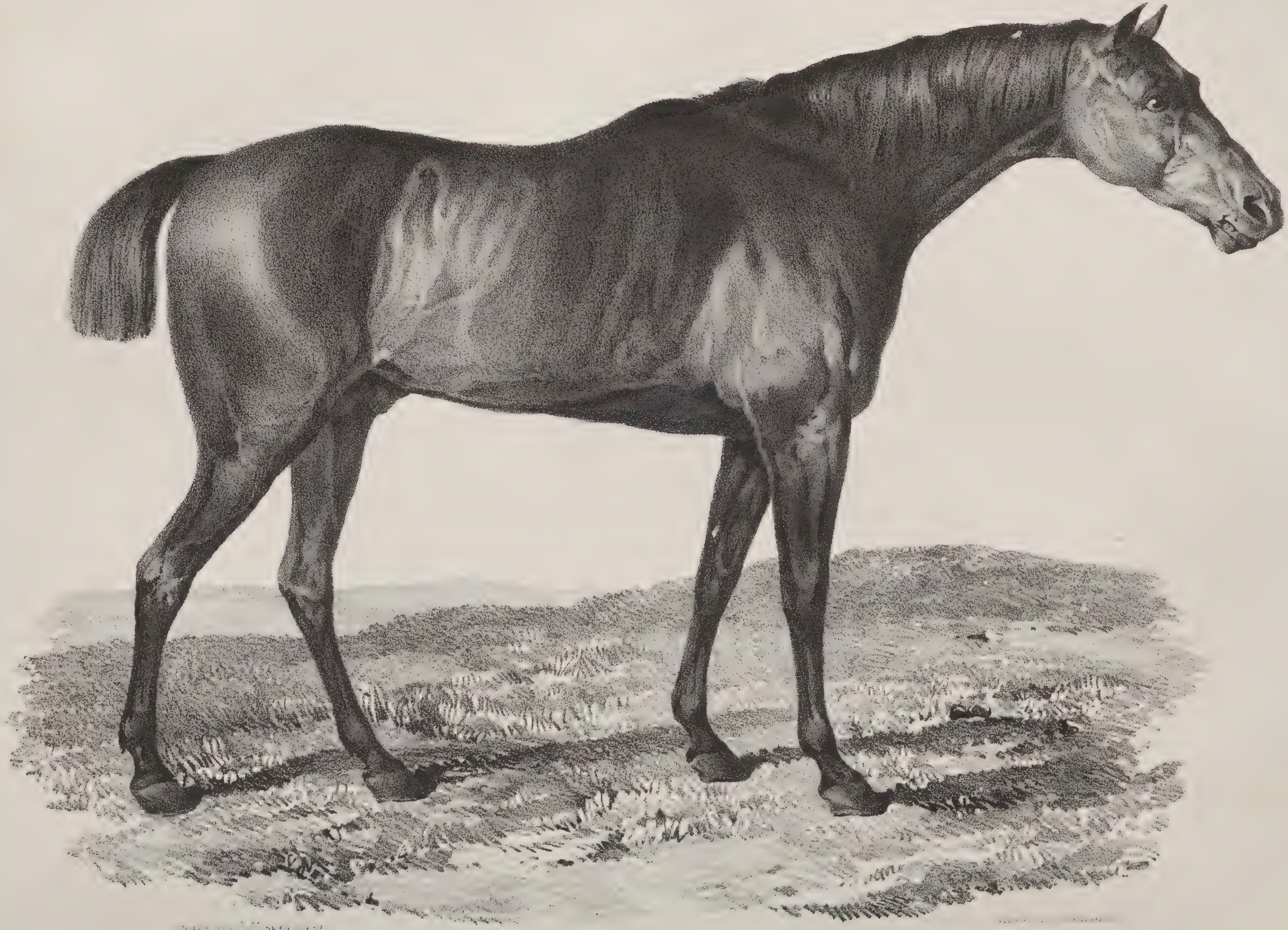
The chest of this Horse was capacious, and he had that compact form which is so useful to the general breeder, but, as a whole, his form was inferior to that of the preceding horses.

PLATE IX. is the portrait of the celebrated SHARKE. This beautiful horse was foaled in 1771, and was painted by STUBBS. The form of SHARKE was more advanced by art for the purpose of speed, than that of any of the preceding horses. As an artificial production intended for a special purpose, the form of this horse probably could not be essentially improved.

He might not be so fleet for one or even two miles as the modern racers; but for four miles, or for any greater distance, he must have beaten them. His chest was capacious in the right place; if a horizontal line had been drawn through it a little below the withers, it would have been found longer than a line passed through the largest of our modern racers. This horse's ribs were finely hooped, his shoulder blades had a good inclination, and great length, the mass of muscles on his arm and withers was considerable, his quarters, the placing of his hind feet, his large pastern joints and back sinews were all admirable. We must yet admit that, as a Stallion, he had lost much of the masculine character of nature. Doubtless he acquired speed under this change, but his offspring would require to be narrowly watched by a breeder looking to the future as much as to the present.

The moment the muscular power of the earlier horses was diminished, as we observe in Sharke, it became in the highest degree expedient (looking to national objects) to prevent any essential elongation of the skeleton. If, after losing so much muscle in comparison

Pl IX



SHARKE.

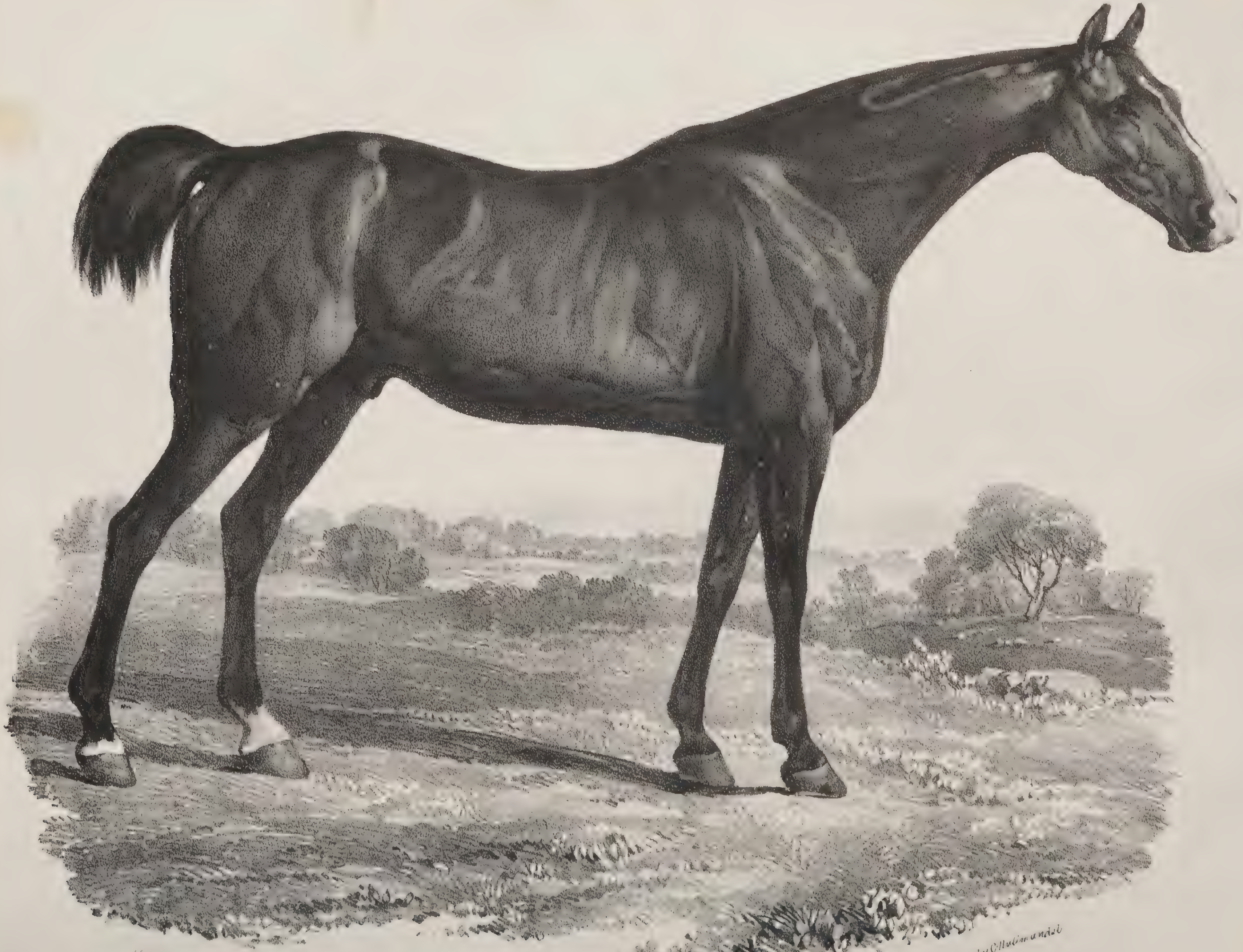
with the earlier horses, the skeleton of Sharke had been permitted to elongate and his sides to have become flat, he might have become more speedy for a short distance, but he would have been less useful for the purposes of the general breeder. It is impossible to doubt that the speed of Sharke was more than sufficient for every useful purpose: it had been purchased by the loss of some vigour; but his compact skeleton being preserved, he would when crossed with a mare of a somewhat stronger race, and full of vigour, have left an offspring very valuable for the general breeder.

PLATE X. is the portrait of a Racer, named JOHNNY, foaled in 1769, painted by STUBBS, and before referred to, as having won or received forfeit twenty-five times. Allowance must be made for the bad state of the print from which this was copied. The form of *Johnny*, though differing from that of *Sharke*, had been advanced by art for the sake of speed as far as could be beneficial. His chest was capacious, his shoulder-blades long, and his withers allied with a good deal of muscle. His form, while compact, displayed a level surface along the top of the skeleton, which is of great value in racing.

Looking to useful objects it must be admitted, that the natural form of Johnny, like that of Sharke, had been as much modified by art for the special purpose of racing as was compatible with the objects of the general breeder. Any further loss of muscle in the offspring of Sharke or Johnny, though accompanied with an increase of speed, would be prejudicial in reference to useful objects.

English blood is strongly developed in the form of this Horse. We must not conclude because native blood had not been renewed after its first cross with that of the Oriental Horses, that it was worn out. A cross has been traced in hounds fifty years after it was taken.

Pl. 10



G. Stubbs pinx.t on stone by Gauci

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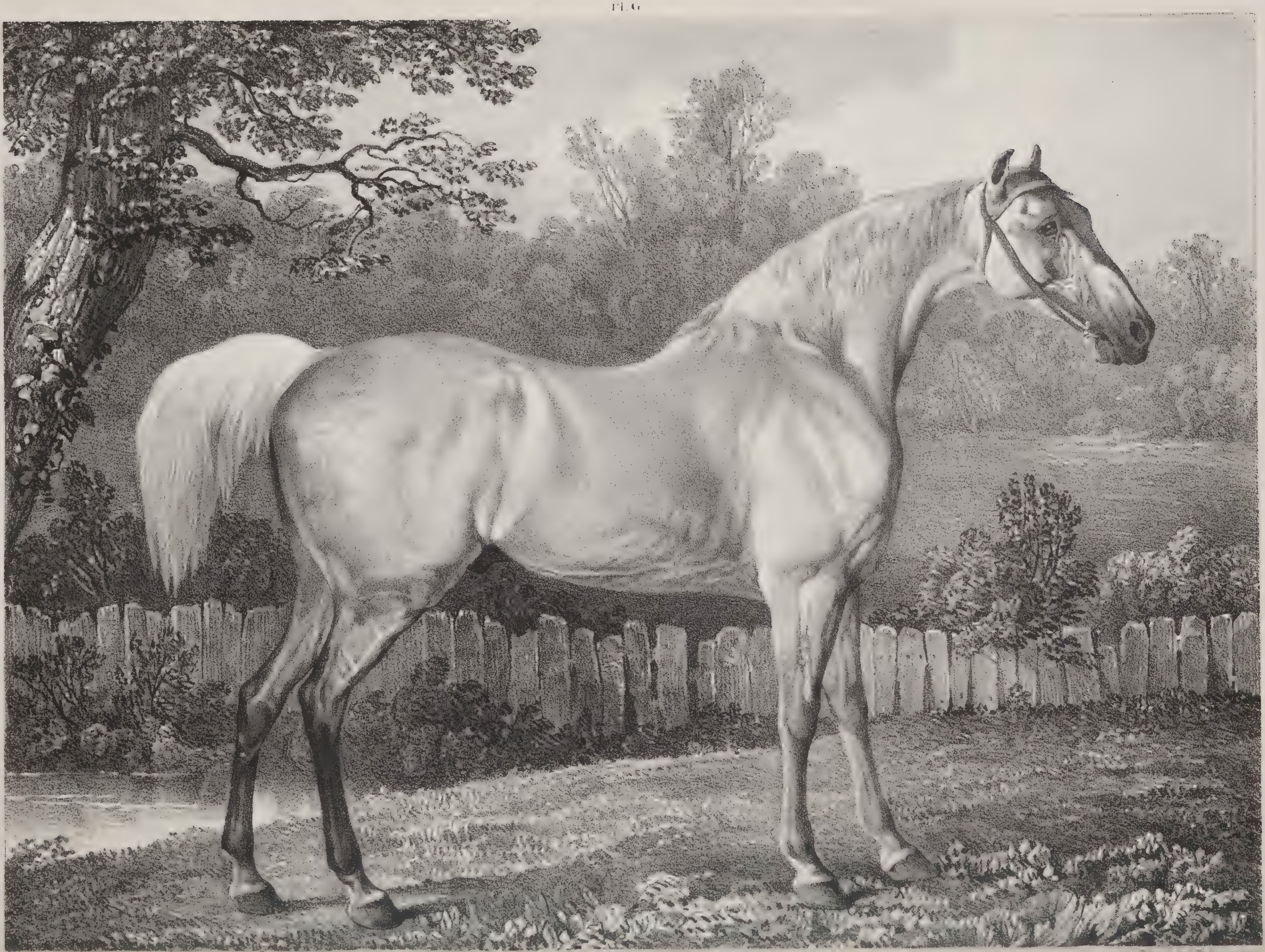
Pl. 6



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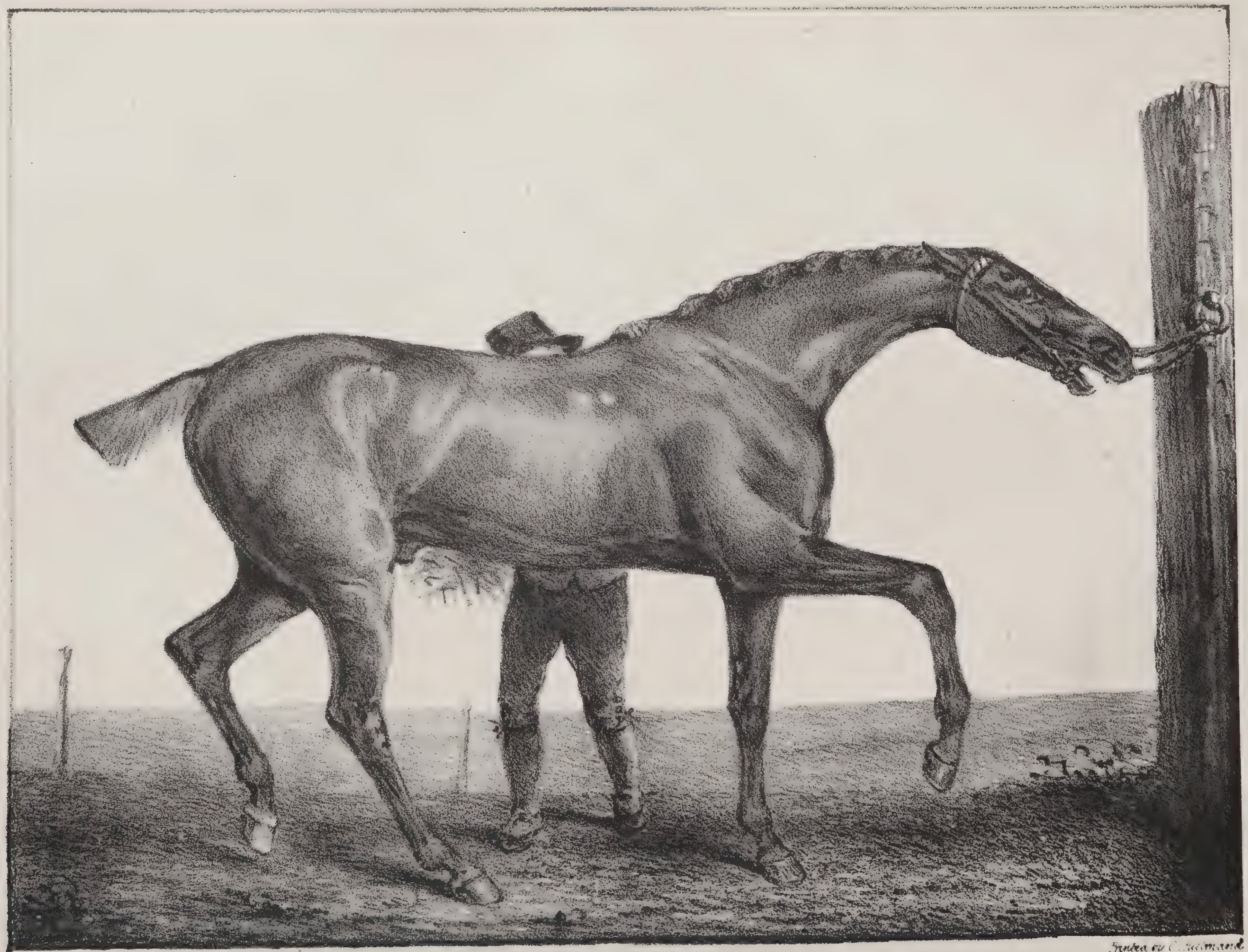
GIMCRACK.

PLATE G. has no number; the Horse portrayed was a celebrated Racer called GIMCRACK. This was an excellent Racer, and was well calculated for the general breeder, having a sufficiently ample chest, and enough of muscles, without any part of the skeleton displaying coarseness. This animal was one of the Horses painted by STUBBS.

THE reader's attention will now be drawn to the portraits of three Horses of a third and later period.

PLATE XI. is the portrait of a successful Racer called MULY MOLOCH, foaled in 1798, and painted by MARSHALL. If we compare the form of this Horse with the forms of the earlier Horses in this series, we find elongation of skeleton does not always bring increase of muscular power. The form of Muly Moloch appears to have been superior to that of the Horses which have succeeded, but inferior to that of those which preceded him. He displayed a longer back, longer and heavier limbs, but less muscle, and smaller sinews than the older racers. His withers came up to a sharper edge, because wanting the large muscles displayed by the earlier Horses; though one of the best racers of his time, this was too late a period in the history of the Turf,—the tasks had been diminished.

Pl II.

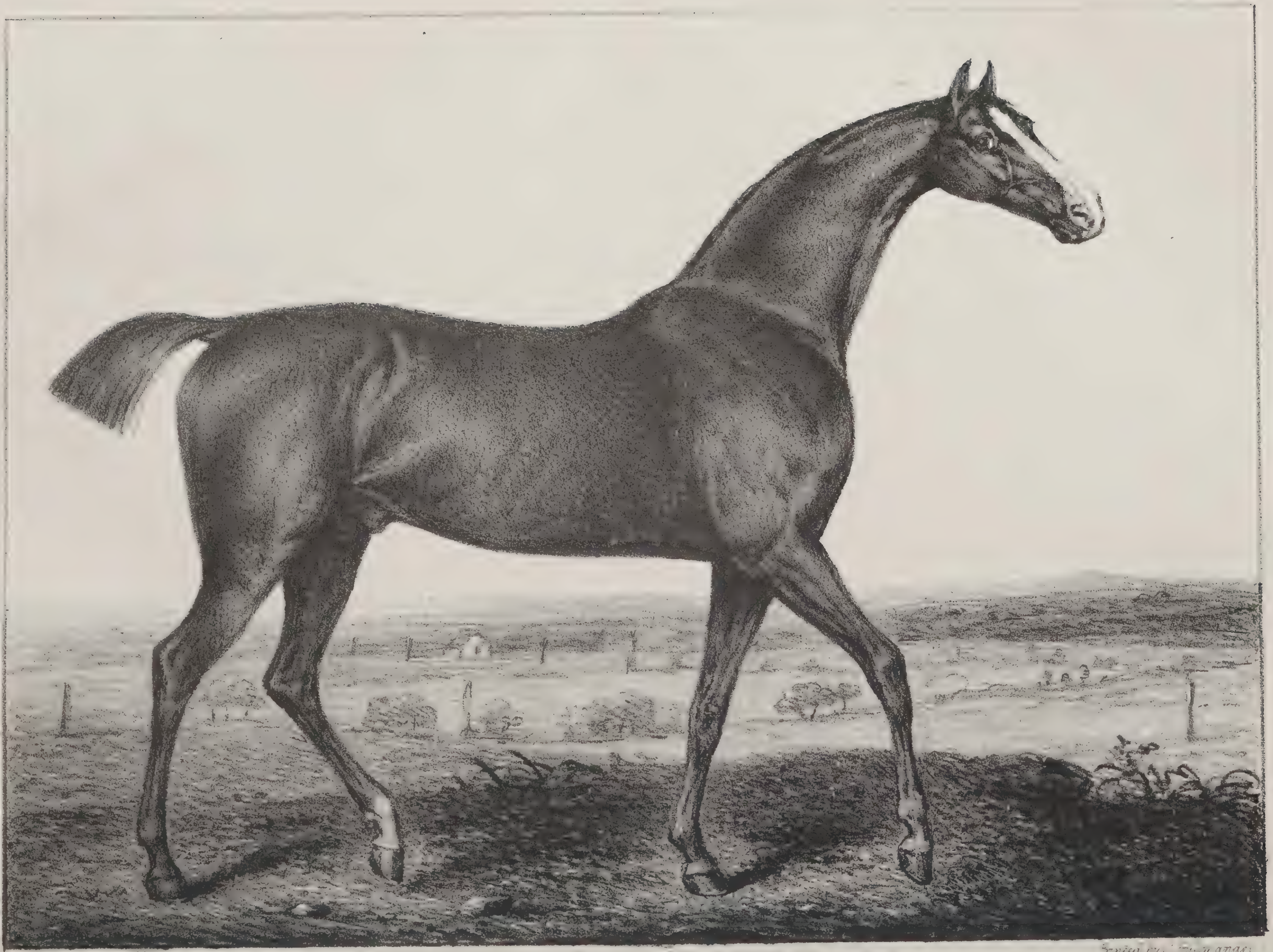


B. Marshall pinxᵗ. Drawn on Stone by H.B. Chalon.

Printed by C. Hullmandel

MULY MOLOCH.

Pl.12



Pinx.^t & Drawn on Stone by H. B. Chalon.

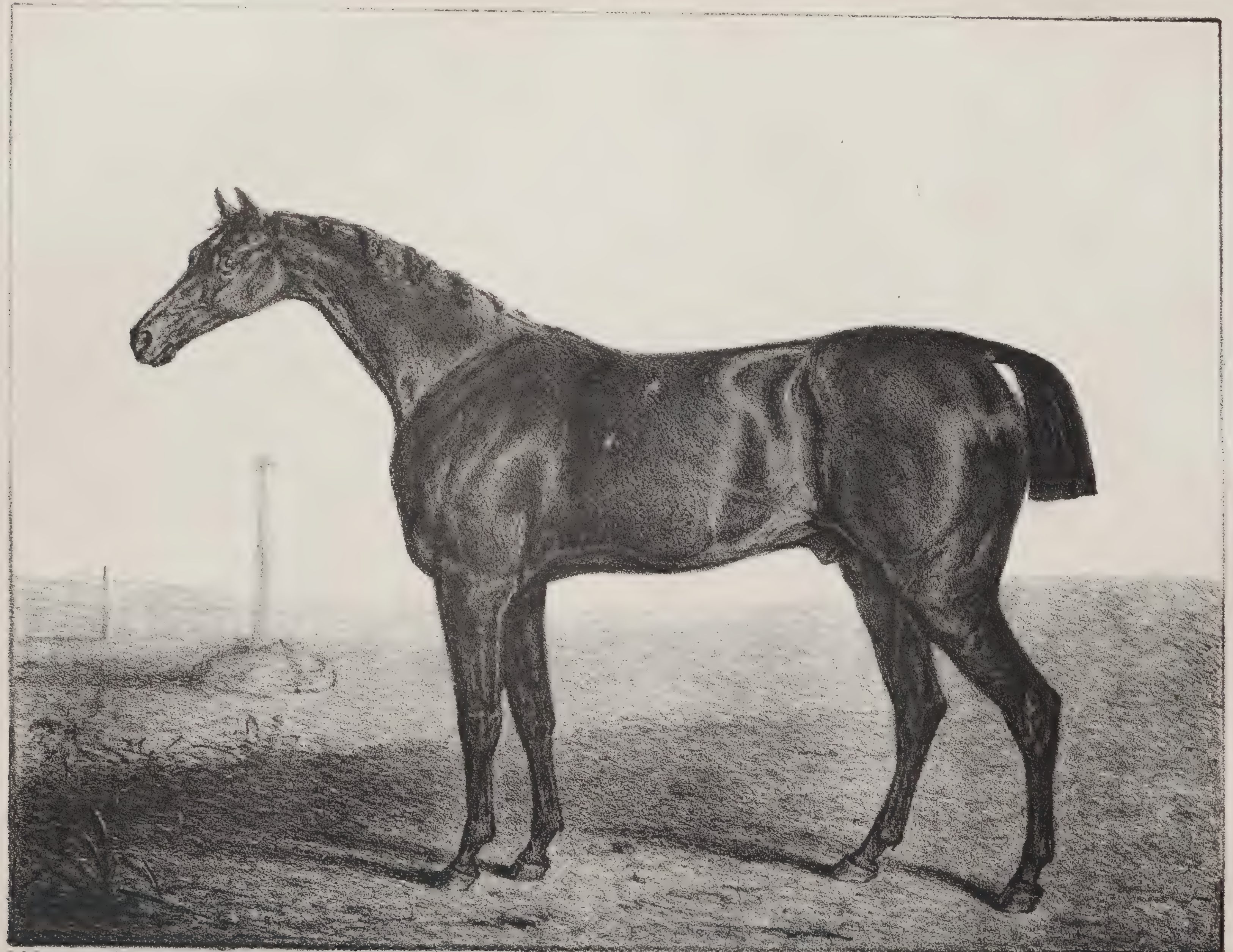
Printed by C. Hullmandel.

SELIM.

PLATE XII. is the portrait of a Racer, called SELIM, foaled in 1802. The form of this Horse was a tolerably accurate type of that of the modern Racer. His success indicated very clearly that a change had taken place in the nature of the running.

PLATE XIII. contains the portrait of PERICLES, who was foaled in 1809, and painted by MARSHALL. This is what is now called a large Horse, one whose skeleton is much elongated, but whose chest is greatly contracted. His heavy limbs were a bad substitute for the capacious chest, muscular and compact form of the older Horses. All that can be said in praise of him is, that he beat his contemporaries.

The portraits of the earlier Horses in this series show, that when our Racers run longer distances, and carried greater weight, their forms were more compact and muscular. The last three Horses were celebrated in their day; but their forms indicated that the time had arrived when the breeders must either have recourse to fresh blood, or lower still further the standard by which the merits of the race had hitherto been tested. Six miles had ceased to be run before the end of the last century, and even four miles, except for the plates. In the year 1809, the Jockey Club lowered yet further the standard by which the physical power of the English Racer had been tested. This was closing the door against fresh blood—a breaking down of that part of racing which had formerly enabled it to confer on our Saddle-Horses a union of useful qualities. While it is acknowledged that the Saddle-Horse should be compact and muscular, our Racers have acquired long legs, long backs, and weak loins. The reply to these objections is, that the modern Racer is swifter than the earlier one. This is probably true, but a degree of speed not required for useful purposes, Pl. 13.



B. Marshall pinx.t Drawn on Stone by H.B. Chalon.

Printed by C. Hullmandel.

PERICLES.

is an unsatisfactory substitute for properties which are required for those purposes.

We know that the older Race-Horses were swift enough to enable the general breeder to produce excellent Saddle-Horses. Our Roadsters were formerly admirable and plentiful, while at present, a compact and powerful Roadster, with fine action, is scarcely to be bought at any price. It is obvious that the Horses of our cavalry are much deteriorated, and that many of them, though obtained during a long peace, when the choice is much greater than in war, could not go through a single campaign.

These are powerful reasons for concluding that the single quality of speed possessed by the modern Racer is a bad substitute for the fine union of speed, stoutness, and structural power, possessed by the old Racers.

Breeders for the turf take great interest in individual Horses, but little in them as a breed. It matters not to one of these gentlemen whether a race be one mile or four, provided his Horse can win it. An individual here can only be expected to breed that class of Horse which is calculated for the existing running. The moment speed for a short distance became the only quality tested, no breeder could be expected to send to the East for Horses whose speed would be less than that of those at home.

It is to be regretted that the persons who administered the annual bounties of the Crown, under the name of King's Plates, did not induce the Jockey Club to maintain the old test. We learn the object of these bounties by the nature of the regulations which accompanied them, calling on Horses to run not less than four miles, the best of three heats, carrying twelve stones of weight. These regulations have long fallen into disuse, but the bounties have been continued.

CHAPTER II.

Contents.—*Artificial Qualities required in the Saddle-horse—Conflict with the natural Quality of Vigour—Difficulty of reconciling these Qualities—Test best calculated for this Purpose.*

IT is difficult to maintain the artificial qualities we want in the Horse with a sufficiency of vigour. Vigour, being derived from nature, is diminished, but never augmented by art—it belongs to all Horses in a state of nature, or in one approximating to it. Nature in supplying them with a certain class of food enables them to be duly nourished by it. Stoutness under severe exertion is a natural quality in Horses of a good race—it is greater in some individuals than in others, but it is always based on the common property of vigour. The natural speed of the Horse must not be confounded with that which it acquires under a system of art. Natural speed is greatest in the Horse when it remains at its natural Stature; and if in enlarging this much skill is not employed, the natural speed is injured. The influence of continued selection, and other expedients, which experience has made us acquainted with, are more powerful in maintaining speed, than is a limited increase of muscular power in destroying it. The difficulty does not consist in maintaining or increasing natural speed, but in maintaining it in conjunction with such conflicting properties as great artificial stature, united with a sufficiency of vigour.

The distances run by our Racers during the first part of the last century, though much longer than those run at present, were probably rather too short, than too long. Six miles without heats is a short distance for a Horse of a fine race to gallop. The races called plates, afforded a more useful test, for though the distance of these was only four miles, this was compensated by the obligation so long steadily imposed by the Crown of running heats, and carrying considerable weight.

The practical course pursued on the turf is to breed from the stallions which exhibit in the highest degree the single quality of speed; rejecting them if their offspring do not win. This is a system calculated to destroy vigour by maintaining too close an alliance of blood. Racing has become a trial of speed, and of such a momentary nature, that it may be attended with a minimum of vigour.

When a race of Horses has become fully domesticated, and placed under a system of continued selection for speed and stoutness, the latter quality is much the more difficult one to maintain. We have seen that speed may be preserved, and even increased, when stoutness is lost. Speed, having been carefully tested on the turf has been preserved:—stoutness, having been neglected, has disappeared. The more we consider the means for maintaining an useful union of qualities in these creatures, the more indispensable we find a fixed and well selected test.

The history of the Fox-hound throws much light on the management of animals required to be stout and swift when domesticated. The speed and stoutness of Fox-hounds are not measured by a comparison only of one hound against another, but by a comparison with wild animals, whose physical power as a race there is every reason to believe undiminished. If one hound is more speedy than the rest of the pack, instead of being singled out (like a racer) to breed from, it is destroyed. While this course prevents a pack of hounds acquiring a maximum of speed, or becoming Grey-hounds, it preserves a high average rate of speed, united with intense stoutness, besides such other qualities as are required. Nothing is more striking in a fine pack of Fox-hounds than its great average merit in the field; unless it be its structural uniformity. No hound is kept that is too large or too small; that has the chest contracted, or the shoulder blades too upright; that has too little muscle, or that is disposed to coarseness. If we turn from this picture and look at our Race-horses, as a breed, we perceive that with a few exceptions the mass consists of the most weedy and useless animals in the world.

An artificial and fixed test, demanding the best union of speed, stoutness, and structural power, is the only one that can be applied to a fine race of Horses which is to be maintained in the condition most useful to a nation. Under this we should affix little importance to a single quality, regarding only a fine union of properties.

If we compare the old and the modern system of racing in this country, we must prefer the former; but even this, as respects utility, was wanting in that extent of artificial contrivance the subject demands.

One of the causes assigned for the present deteriorated condition of our racers is their running at so early an age. This is a bad practice, but it is not the cause of constitutional weakness, it is one of its effects Whether these animals run at two or at five years of age, they must be supplied with as much corn as they can eat, or they will be starvelings. Grass of middling quality would not sufficiently nourish them while growing, and the large amount of muscle produced by rich grass would deteriorate its quality.

Where the skeleton of a race of Horses has become too much elongated we must not attempt to reduce it by supplying the growing animals with less pampering food than the race has been accustomed to—by this course we should render them starvelings. We cannot change a form which denotes a loss of vigour, but by recurring to a cross with animals whose symmetry denotes more vigour.

CHAPTER III.

Contents:—*Our present Racers though strongly disposed to become weedy, are also disposed to become coarse. Natural grass with natural habits does not produce coarse muscle, neither is artificially rich grass the only cause of bad muscle, neither is bad muscle the only token of coarseness—this evinced by the form of the skeleton, as much as by the nature of the muscle—facts which prove this.*

THERE is one characteristic in our Race-horses, which merits particular attention. While strongly disposed to become weedy, they are also disposed to become coarse. Speed in a system of racing which has heavy betting for its object, cannot be dispensed with. Every effort being made to preserve this quality, our Race-horses are rarely found coarse, though generally weedy. Their actual condition under a highly factitious system, must not be confounded with a tendency which is only checked, by recurring continually to the most unnatural expedients.

The performance of the older Horses, and the annexed portraits of some of them, show, that while art can increase the natural speed of a fine race, it can render this compatible with stoutness and much structural power. Though it is possible to unite these properties, they are conflicting. However fine a race of Horses may be, if we much increase the natural amount of the muscles, these are strongly disposed to become deteriorated in quality ; to become impure, by being mixed up with fat and other substances, extraneous to that true muscle possessed by such a race at its natural size. Swift and stout animals in a natural condition have often much fat appended to, but never mixed up with the muscles. In uniting an unnatural amount of structural power with much speed, we are compelled to have recourse to art, to continued selection, to dry food, and other expedients. It is easy to increase the stature, and with it the muscular power of the natural horse :—artificially rich grass is the most powerful means we can recur to for this object ; but by rendering the quality of the muscle bad, it destroys respiratory power, and with it speed—it renders the animal coarse. We are compelled to substitute a dry food for that which is succulent, when we wish to maintain speed in a race of Horses, whose natural stature has been much increased. Availing himself fully of all the benefit derivable from this expedient, the breeder for the turf has become afraid of seeing his stock become coarse, and thus lose its speed. Our Race-horses, though now generally weedy, would soon become coarse, if every effort were not made to prevent it. Those who have written on these animals, take no notice of their weediness, but agree in attributing coarseness and bad muscle to a grass diet. Our Racers are, however, never reared on this; and yet, when not weedy, they are strongly disposed to coarseness. There is some cause at work then, which, independent of grass, disposes these animals to coarseness. We have traced this in Hares and Rabbits, which lose their activity and stoutness when their natural skeleton becomes enlarged. We have shown that the Fox loses his stoutness without any change in the quality of his food, if he get it with too little exertion.

To affirm grass to be productive of bad muscle, is to say, that the food nature provides for a fleet and stout race is unfitted for it. So long as the stature of such a race remains at that point at which it is duly nourished by a natural quality of grass, obtained by the animal's own exertions, the muscle will continue pure and specifically strong, and the natural speed and stoutness of the animal will remain undiminished. If this were not so, how could Ponies travel more than a hundred miles a day on a grass diet?* How is it that the Exmoor Ponies, as will be seen in the Appendix, work best on that food, and that the small Horses found in Russia and Hungary can travel great distances at a rapid pace without ever tasting corn?

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* Amongst the many extraordinary feats performed by Ponies, none perhaps are more worthy of being recorded, than the following:

The late Mr. Allen, of Sudbury, in Suffolk, often during the course of his life, rode from that place to London and back, (112 miles) in the course of a day upon a Pony. This task was performed by several which Mr. Allen had in succession. When he returned home from these expeditions, he was in the habit of turning the little animal he had ridden at once into the lanes, without giving it a grain of corn. Mr. Allen, whose weight was very light, rode at a smart canter. He always selected Welsh Ponies, saying, that no other were so stout. If any one of our enlarged Horses could be found capable of performing this task, it would certainly not be on a grass diet.

Sir Francis Head says, no English Horse can on a grass diet compete in travelling great distances in a limited time with the Horses of the Pampas; that when these are weak from want of a sufficiency of food, the traveller may thoroughly tire, but cannot kill them. Another accomplished officer, who has had much experience of the South American Horses, informs us that when the traveller gets amongst a good race, and this in condition, he may ride them twenty miles at a smart gallop without once relaxing the pace. If grass be incompatible with speed and stoutness, how is it that the Stag and other graminivorous animals are found while subsisting on such food, so swift and stout?

All that can be objected to grass amounts to this; that when rendered unnaturally rich, it is one of the causes (the most powerful, perhaps,) which render a fine race of Horses coarse, depriving it in consequence of its activity and stoutness; while grass of a natural quality will not sufficiently nourish the growing animals of a race after its stature has been much enlarged. Under these circumstances, dry food, consisting in great part of corn, is one, and only one, of the palliatives for an evil attendant on such an amount of structural enlargement as renders the animals incapable of being nourished upon natural food. It has already been said that when graminivorous animals, which are growing, obtain richer food throughout the year than is natural, and this without exertion, their skeletons become increased, while their stoutness is diminished.

The breeders for the turf appear not to have understood this principle. Seeing that great structural power could be united in individuals, with speed and stoutness, they have been engaged in a fruitless attempt to unite these qualities in a Race. They have long bred from animals of great stature; but the manner in which they do this proves the error of their system. *They fear to breed from parents which are young on both sides. While nothing then is gained by allowing the skeleton of this race so much to elongate, it is clear that much vigour has been sacrificed under a system which prefers breeding from large animals no longer possessing the vigour of youth, to breeding from smaller ones which do possess it.*

Without recurring to fresh blood, it is impossible to prevent coarseness in any race of graminivorous animals, after the skeleton has become generally much elongated, without having recourse to expedients calculated to diminish vigour. In breeding on the turf from old parents, and this purposely to abate coarseness, the breeders are, without knowing it, pursuing a course beyond all others calculated to diminish vigour. Breeding as they do only from a very limited number of stallions, they beget by this a close alliance of blood, which, when long continued, is the most powerful expedient for preventing coarseness by diminishing vigour. The new Leicester Sheep would long ago have become as coarse as those they succeeded, had they not been bred very much in-and-in: avoiding coarseness by this means, they have acquired a delicacy which renders them, unless crossed with animals of a more vigorous race, of little value. Without any change of food, or unnatural increase of structure, a race of animals will deteriorate by two close an alliance of blood. In a state of nature, instinct leads them to avoid alliances of blood, which tend to deteriorate a race. It is impossible to say what number of animals suffices to constitute a race which, under favourable circumstances, can maintain its vigour without having recourse to new blood. A well-selected and strictly maintained test is alone calculated to keep the breeders in the right course.

Our ancestors in selecting Ponies for the turf attested their esteem for vigour, and they afterwards showed a desire to maintain this, with a sufficiency of speed, stoutness, and structural power. Long after the "Turf" was organized, and after the size of the animals had become generally too much increased, we hear of Horses not larger than Galloways beating the large Horses of the day, carrying twelve stones of weight. How is it then now, when the constitutions of our Race-Horses are known to all who breed them to have become very feeble, that the Newmarket people are afraid to breed from young parents on both sides? Is it vigour that they fear? Is a quality once so much esteemed on the turf, now dreaded? They cannot fear true vigour, but it is clear that they have no confidence in that, the only sensible exponent of which, is coarseness. Finding that our Racers now oscillate between weediness and coarseness, the breeders naturally prefer a Horse that is weedy, with speed, to one whose greater muscular power is attended with a loss of speed. They have provided for any conceivable loss of structural power by not calling on their Horses to carry weight; and they have provided for a loss of stoutness by not calling on them to run more than the shortest distance.

Our Racers as a whole are feeble and weedy; many of them would have been benefited by being reared on rich grass, but the few which display more muscular power would have been ruined by such treatment. A few display no inconsiderable amount of muscular power, but not having the compact and natural symmetry of the earlier Horses they cannot carry so much weight, or run so great a distance. The difference under exertion between the old and modern Horses cannot be measured wholly by amount of muscle. The compact symmetry of the older Horses facilitated carrying weight, but did not account for their stoutness under severe exertion. It is not the form of the Pony which enables it to work hard daily, and to be duly nourished while growing on natural food; neither was it form alone which rendered our earlier Racers so stout. These properties must be traced at last to that power which, call it what we may, is not material, and is greatest in this animal when its structure is most natural.

The result of so much interference on the "Turf" with the laws of nature, has been exchanging the short back, short limbs, capacious chests, full sides, and muscular character of the old racer, for the long back, long limbs, flat sides, weak loins, and delicate constitution of the modern one. If the breeder attempt to increase the muscles in the modern racer, their quality in most cases is coarse, and the animal loses its speed: a coarse racer is scarcely fit for any thing; it has all the constitutional feebleness of its race, without the speed.

SADDLE-HORSE.

CHAPTER IV.

Contents.—*Reasons which make it expedient for useful purposes to cross a fine race of Horses with a coarse one—The form of a Saddle-horse should be compact—Our Farmers in breeding this class of the Horse are dependent on the quality of our Racers, over which they have no controul—Our Saddle-horses, like our Racers, oscillate between weediness and coarseness—Our Farmers prefer the chance of breeding coarse rather than weedy Horses—When these are compact they are usually too full of Cart-horse blood to be compatible with good action.*

A FINE breed of Horses is by nature as vigorous as a coarse one, and its stature, up to a certain point, is as easily enlarged; but if we attempt to give it the structural power of a coarse race, we are compelled to have recourse to a diet which destroys its speed, and injures its vigour.

A coarse race of Ponies can be made to acquire the structural power of moderately sized Cart-horses by the aid of every indifferent herbage, provided the animals get enough. Vigour in this process is diminished, but not so much as it would be if the animals had been supplied with richer food.

The moment a race of Horses under domestication ceases to be properly nourished by herbage of moderate richness, its vigour is sensibly diminished. Art now steps in and furnishes these animals with cultivated and unnaturally rich grass, or with corn and hay.

Rich food soon destroys the speed and stoutness of the finest race of Horses, unless skill be employed to prevent it. We know, on the other hand, by the present condition of the English Racer, that the speed of a race may be maintained, and even augmented, while its vigour is greatly diminished. With every desire on the part of the breeder to make the English Racers powerful as well as speedy, they have become unable to carry anything like the weight of their smaller ancestors.

Seeing how strictly limited is our influence over a race of Horses in which it is desired to maintain the most useful union of natural and acquired properties, it is found advantageous to cross a portion of a fine race with a coarser one, in order to obtain more structural power than is compatible with the qualities it is wished to maintain in the finer race. By this cross we not only derive a more powerful animal than the Racer, but one which has been nourished on indifferent herbage, and consequently with less diminution of constitutional power. This is the principle on which, after taking so much pains with a fine race, we cross it with a coarser one, when we want to produce what are called throughout this work "Saddle-horses."

We raise nearly our whole supply of these by crossing the Racer in the first instance with the Cart-horse, and again crossing the offspring with the Racer. It matters not whether in the second cross we use half-bred Mares or half-bred Stallions; in either case, if we expect the produce to be a good Saddle-horse, it must not have more than one-fourth part of Cart-horse blood in its veins. Even this amount of bad blood makes the breeding of Saddle-horses an uncertain business; often rendering the young stock only fitted for harness. It is important then that the form of the Racer should be as nearly as possible that which is best suited for useful purposes. This is admitted to be compact, while that of the modern Racer is the reverse. Greatly as this animal is permitted to influence the character of our Saddle-horses, it is no longer bred with reference to this circumstance. Our Farmers cannot breed Saddle-horses without the aid of the Racer, yet over the quality of this animal they have no controul. So anomalous is their situation in this business, that no one enters largely into it; it is subordinate to every other on a farm, and is in consequence least understood. Few Farmers keep more than half-a-dozen brood mares: when these are sufficiently well-bred to produce an offspring with good action for the saddle, they usually display many of the characteristics of the Racer—a long back, flat sides, weak loins, long legs, a feeble constitution, and a strong disposition to local and hereditary disease.

To enable the offspring of one of those Mares and a Racer to carry a man of average weight, it must be reared during summer and winter on rich food, and it then arrives at a great stature; one calculated only for hunting or harness. This great elongation of skeleton renders nearly all our well-bred Horses that are powerful unfitted for Roadsters. If we attempt to keep down their stature by supplying them while growing with less forcing food, in attaining less height than their parents, they acquire smaller chests and less muscle—they are starvelings.

Pampered as our large Hunters now necessarily are during their growth, their chests are usually contracted, and they have too little true muscle—the short ribs are usually so flat that the loins are weak, the proper surface is wanting for the attachment of muscle. Not one in a hundred of our well-bred Horses is now found which does not show more or less defect on these points, and yet they are the most important for enabling a Horse to carry weight.

Some years ago our Saddle-horses were disfigured by the fat they acquired at grass—now they look best on this food; the fat they obtain from it conceals the flatness of their ribs, and their want of muscle.

The brood Mares of our Farmers, which are sufficiently strong, have too much Cart-horse blood. The shoulder-blades of their offspring are, in consequence, upright, and their action unfitted for the saddle. The Farmers in breeding generally make use of these low-bred, but strong Mares, in order to secure an offspring which, if not good enough for the saddle, may be sufficiently strong for harness.

Our Saddle-horses, like our Racers, oscillate between weediness and coarseness. The growth of the former must be forced, which is done by turning them on rich pastures in summer and supplying them with corn and hay during winter. We rarely now see Saddle-horses which while powerful are compact and free from coarseness.

The general breeder cannot, like the breeder for the turf, keep his young Horses throughout the year on an unlimited quantity of corn; he cannot afford to rear them during summer on more expensive food than rich grass; he wishes his stock not to be coarse; he prefers good symmetry to bad, but he must have that aggregate amount of muscle in each Horse, that, in the case of its failing for the saddle, it may be strong enough for harness. Our well-bred Horses cannot be rendered sufficiently powerful for either the saddle or harness unless they are reared on unnaturally rich food. The general breeder is compelled to make up for the Racer's want of structural power by a cross with the Cart-horse, and by a rich grass diet. Thus his stock in becoming less weedy than the Racer becomes more coarse. It continually happens that a Mare which has been an excellent Hunter, and from which good stock is expected, yields to a racing Stallion an offspring fitted only for harness. When the general breeder wishes to produce the best class of Saddle-horses, he should be able to breed from parents sufficiently powerful for his purpose, with the least possible disposition to coarseness. The weediness of our Racers naturally induces the general breeder to select Stallions from amongst those of the largest size.

Crossing these with Mares having the skeleton too much elongated, and feeding the offspring while growing on rich grass, they become very large, but the majority are only fit for harness; a few make large Hunters, and the rest are weedy.

When the general breeder wishes to produce the best class of Saddle-horse he is obliged to employ much racing and little Cart-horse blood. When the first cross between the Cart-horse and the Racer suits his purpose, the compact form of the former corrects in the offspring the weak form of the Racer; but the produce of the first cross is rarely fitted for the saddle—it must be crossed again by the Racer in order to dilute sufficiently the Cart-horse blood, and the offspring of this second cross, in obtaining more of racing blood, acquires more of the Racer's present form than is compatible with useful symmetry.

This is well illustrated by the appearance of many of our Post-horses; particularly by those the drivers ride. It is necessary to give them, besides a large aggregate amount of muscle, that additional power which results from a compact symmetry. These animals are the offspring of the first cross between the Racer and the Cart-horse; they are only fit for harness, but having much Cart-horse blood, are compact and muscular. This is a useful class of Horse for trotting in harness, and easily raised; but the upright direction of their shoulder-blades does not allow them to gallop.

If this picture of the present situation of the general breeder be faithful it accounts for his embarrassment—it shows how impossible it it has become to render the breeding of good Saddle-horses anything but a matter of chance—one in which the blanks are numerous, and the prizes few.

The remedy for either coarseness or weediness in a race of Horses rests on the same principles as that some years ago had recourse to for the renovation of the old Yorkshire short-horns. The long and coarse limbs of these animals were shortened and fined, their chests opened, their whole form improved, and their vigour restored, without this being attended with coarseness, by the simple remedy of going back to nature for that which factitious habits had too much impaired.

CHAPTER V.

Contents:—*Unnatural Food the foundation of unnatural Enlargement of the Horse—This Fact frequently overlooked—Bad Consequence of this—In enlarging the Stature of a whole race of Animals by means of rich Food, we cannot retrace our steps—The Action of Horses often derived from Art, but their Vigour can be obtained only from Nature—Further Illustrations.*

WE can only in the first instance enlarge the natural structure of a race of Horses by furnishing it while growing throughout the year with unnaturally rich food. The process of enlargement once effected by these means, can be afterwards shortened, by crossing the natural animal with the enlarged one. Unless we have recourse to a coarser race than that we wish to enlarge, the crossing Ponies with Horses of factitiously large stature is only productive of mischief, unless the offspring be supplied while rearing, with food as rich as was required to rear the enlarged parent.

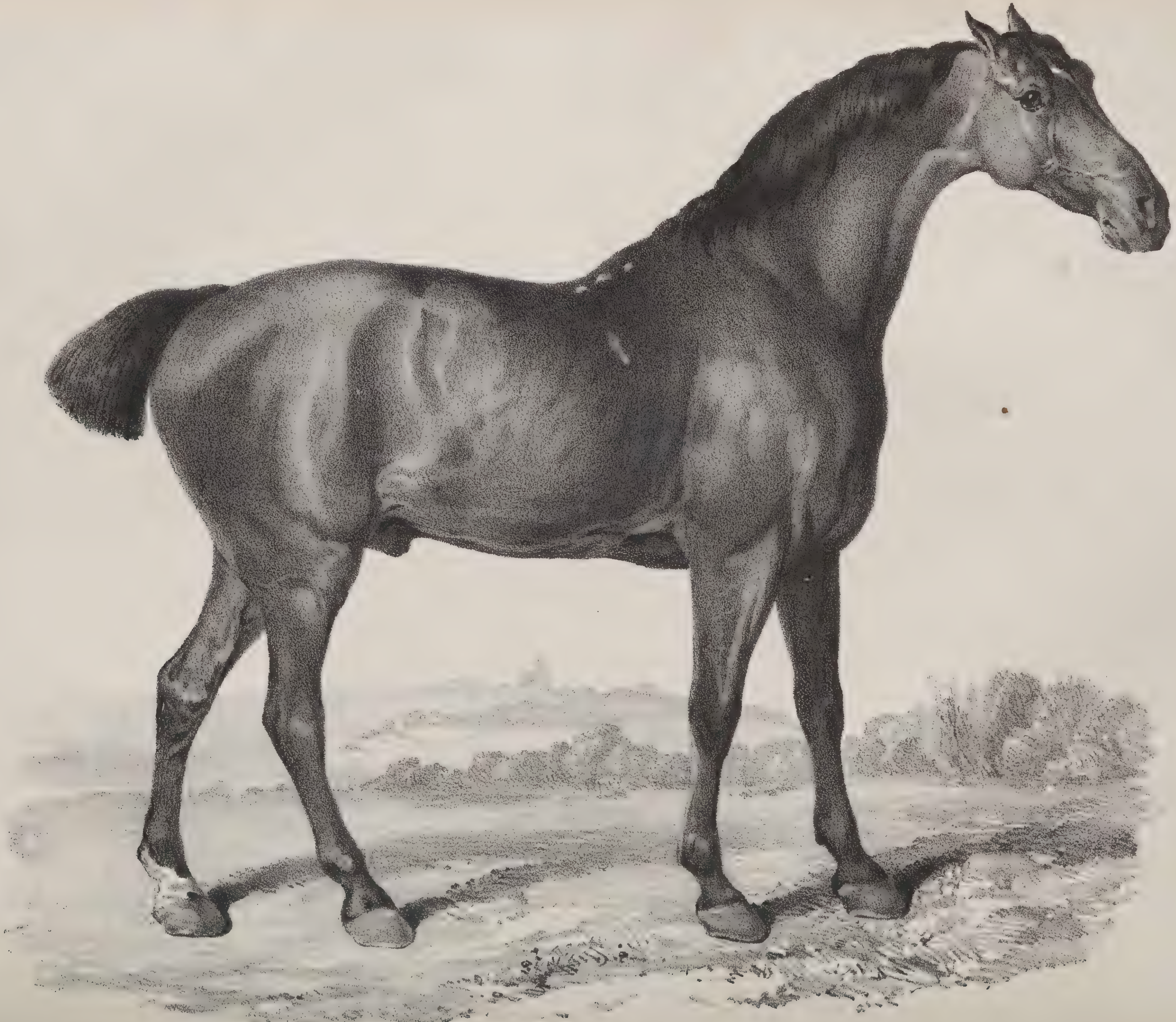
Whether we increase the natural stature of Horses by the gradual process of change of food and habits, or shorten this by the aid of an animal already enlarged; the foundation on which enlargement of structure rests, is factitious food. So evident a principle as this has been too often overlooked in practice, and some of our best breeds of Ponies irretrievably injured by being crossed with racers, and other well bred Horses, which had acquired an unnatural stature by the aid of unnatural food. A race descending from a cross of this kind, which is not supplied with a corresponding change of food, may be very hardy, but will ever afterwards display a stunted form; losing with the fine symmetry of its small ancestors much of their muscular power. This is illustrated by the state of the ponies on the New Forest and on many of our commons.

A race of domesticated Horses whose stature has been enlarged may show no tendency to coarseness; but, on indifferent food, will be strongly disposed to weediness. These animals would acquire more structural force if reared on richer food; but this is not a remedy—it is only a palliative; and an expensive, and consequently objectionable one. Let us only know what food suffices to rear good Saddle-horses, and then we shall be alive to that deterioration which shows itself in diminished vigour; the race no longer displaying its former muscular power on a class of food which formerly produced that power.

We will now examine the portraits of four Saddle-horses, of a more useful class than any we now possess.

PLATE XIV. is the portrait of a Hunter of the last century, painted by STUBBS. A Horse cannot now be found uniting so much breeding, with as compact and muscular a form, as that represented in this Plate. If we look at the shortness of his limbs, the size of his joints, his open chest, the expansive form of his ribs, his wide hips, his fine head, muscular neck, his powerful arms, thighs and stifles, and above all, his muscular loins, we cannot but regret that this class of animal has disappeared. The skeleton of Horses may differ, and this beneficially as to scale; but the proportions of the several parts to each other should be as nearly as is practicable the same, unless we can suppose that no one form is better than another. Making due allowance for race, we believe that of nature to be the best. We admire the form before us because it reminds us strongly of that of a good Pony—it is that of the old English Hunter, which many persons will at once recognize. Even this class of head has disappeared; such was probably never found on a bad Horse.

It is a mistake to suppose that the old Hunters were stronger than the modern ones because not so well bred. Many persons remember the Hunters of the last century, and will admit that powerful Horses were then better bred than are now Horses of equal power; the limbs of the older Horses were flatter, and their coats as fine as those of our Racers. The Hunters of the last century did not require



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clipping. Those of the present time which are capable of carrying much weight look like Coach-Horses; a few may exhibit good breeding, with considerable power, but they are exceptions rarely met with.

PLATE XV. is the portrait of a celebrated Hunter* of this century, foaled in 1793, and painted by COOPER. The rider was a Mr. Rounding—his weight was great, but the animal was equal to it. The form of this Horse might have been improved, yet it had a power, resulting from compactness and true muscle, which cannot be estimated by weight or measurement. He was what is called wiry; that is, his skeleton was not too large, and his muscle was of great specific power, and not inconsiderable in quantity. The form and power of his neck cannot be too much admired, and could only belong to a good Horse. This portrait illustrates sufficiently the value of that power in the Saddle-Horse, which is unallied with coarseness. We do not want to ascertain the elementary nature of the muscles; when a moderate amount of them can carry such a weight as that of Mr. Rounding after hounds, we may conclude that they possess great specific power. The muscles on our Race-Horses are specifically powerful, but they are deficient in quantity; while the muscles on such of our Saddle-Horses as are powerful are defective in quality. So long as neither much muscular power or vigour is required, we have yet many desirable Horses; but we can now rarely produce great power with a moderate sized skeleton, united with sufficient breeding.

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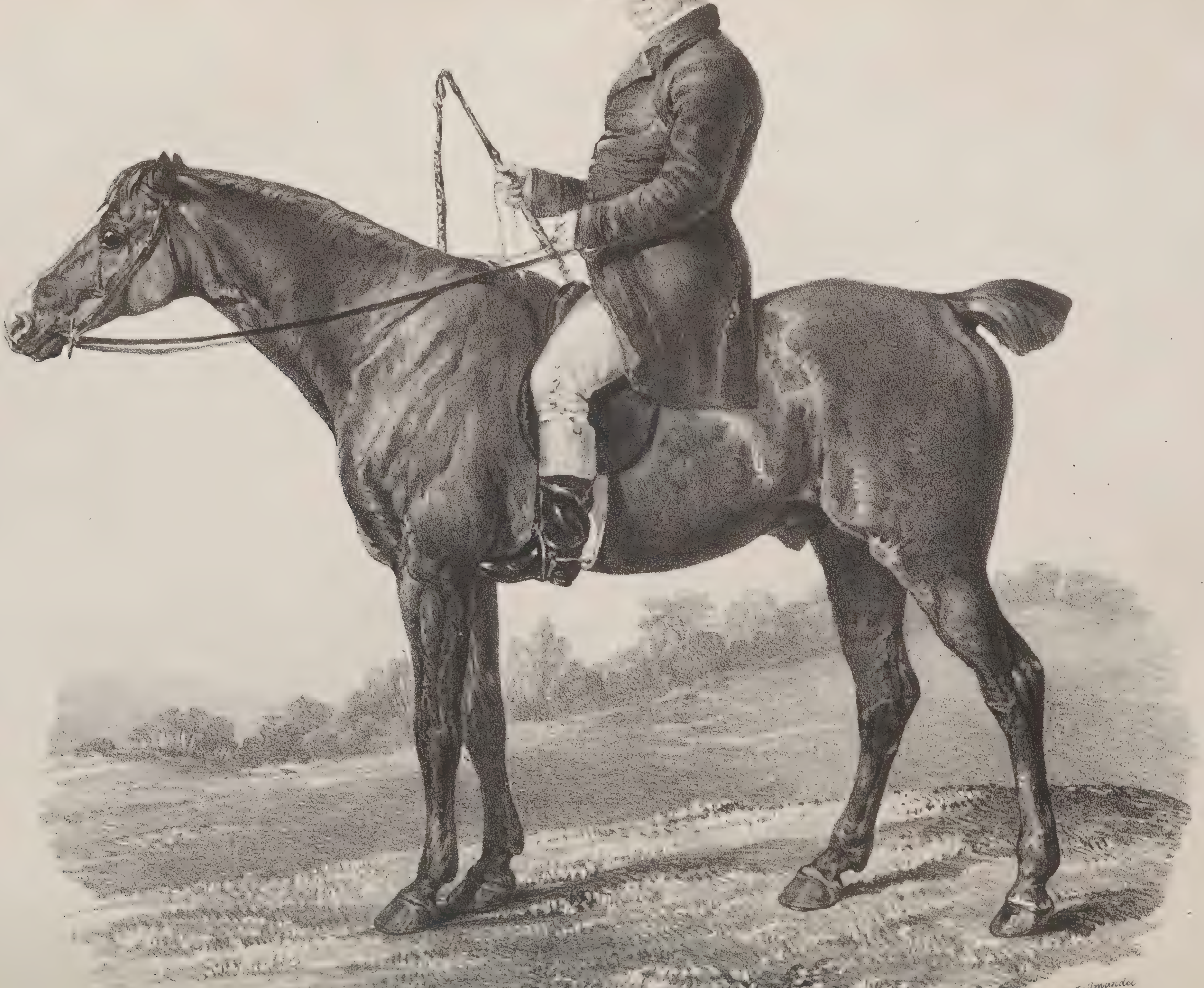
* We have just learned that the name of this Horse was "Spankaway," and that he was thorough-bred, and is to be found in the Racing Calendar.



On Stone by M. Gauci

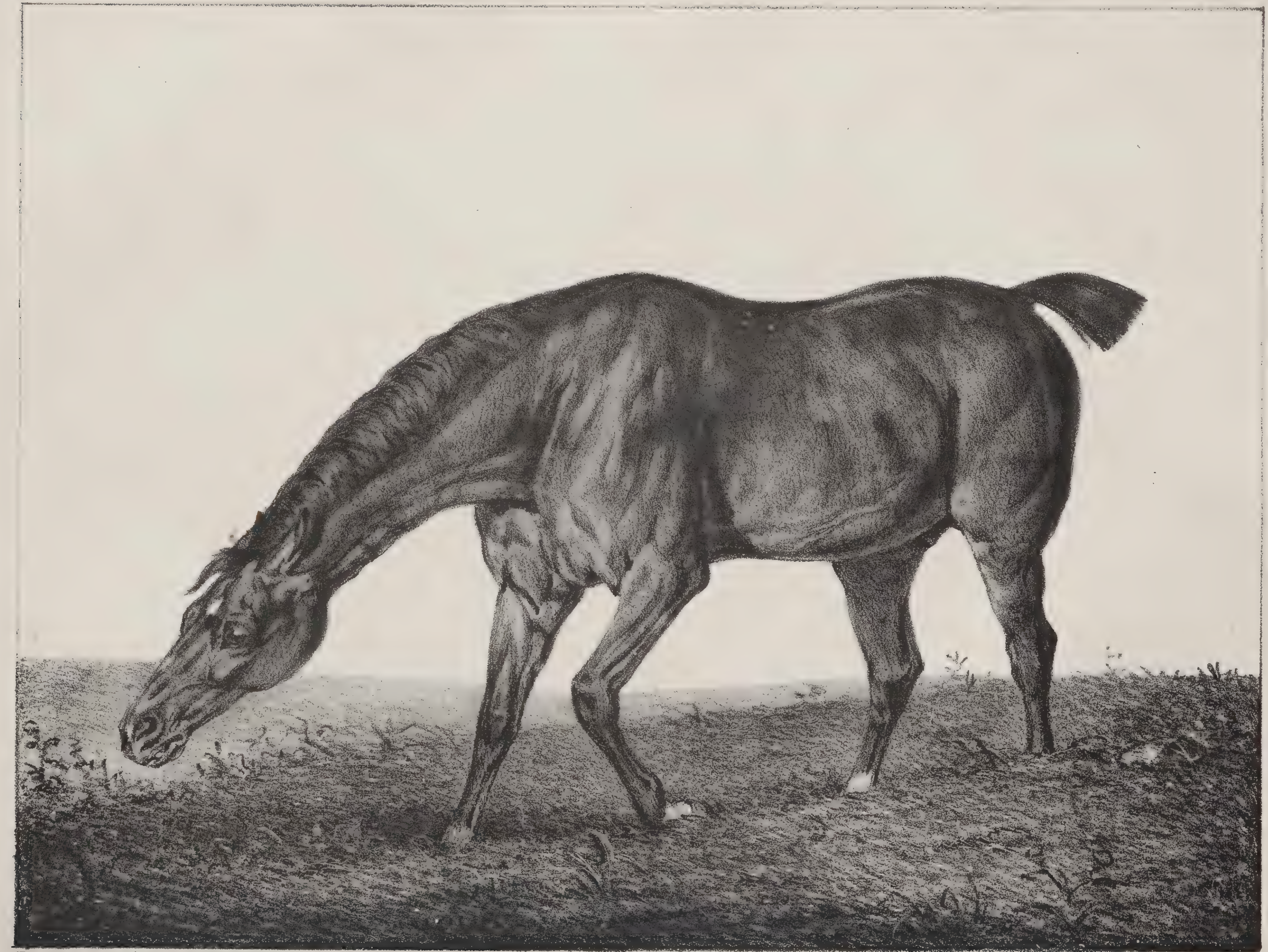
Printed by C. Hullmandel

PLATE XVI. is the portrait of a Hunter of the last century, painted by STUBBS. This class of Horse is the most generally useful, and is fortunately that which, under a good system of breeding, is most easily produced, though it has now wholly disappeared: it can only be bred from parents which are vigorous, without any tendency to coarseness. A class of Horse like this would be reared at half the expense now required to rear a modern Saddle-Horse of equal power and breeding.

PLATE XVII. is the portrait of a Hunter bred early in this century. A Horse with such symmetry, breeding, and powerful structure as this, cannot probably be found throughout the kingdom.

The characters of the Horses in the last four Plates are different; but they are all useful, uniting much structural power with sufficient breeding. It is easy to produce speedy Horses without power, and a large Hunter without compactness; but it is not easy to continue long to produce Horses uniting compactness with much muscular power and fine action—these properties demand that vigour which is unallied with coarseness.

Pl. 17.



B. Marshall pinx.t Drawn on Stone by H. B. Chalon. *Printed by C. Hullmandel.*

MR. MICKLETHWAIT'S HUNTER.

CHAPTER VI.

Size of Brood-mares—Their Stature should be less than that of their offspring intended to work—Difficulties with which those who produce our Saddle-horses have to contend—Proper Form of the Saddle-horse—The Power of a Horse to carry Weight as well as his Vigour are pretty well directed by his Form—The want of Vigour in our well bred Horses as conspicuous as their defective Symmetry—On what the Price of good Horses depends.

SO much error is abroad respecting the size of Brood-mares as to require some further remarks. Although what are called large Mares are ill calculated for breeding valuable Saddle-horses, nothing would be gained by substituting such as are of only low stature because weedy. Mares properly constituted for breeding should exhibit that symmetry on a moderately enlarged scale which is best in reference to their race. We do not properly enlarge a race of Ponies, unless while increasing generally the skeleton, we preserve its parts in their natural proportions to each other. When the form of a Mare ceases to be compact, in reference to her race, her constitutional vigour is too much reduced.

Keeping the stature of a Brood-mare below the point of increase it is capable of attaining by means of rich food, enables this to exercise an influence over the offspring much greater than it could operate on that of a larger mother. The effect of unnaturally rich food is great or small in proportion as the growing animals which obtain it are vigorous or feeble. If we enlarge the stature of Brood-mares to the full extent that rich food enables us, we diminish unnecessarily the vigour of the race, without rendering it more powerful: it becomes eventually less so. A margin should always be left, to be filled up by the influence of food upon the working portion of the stock. The difference of stature which we are enabled to maintain between a Mare and those of her offspring which are to work, may be more or less; but whatever it is, it should be preserved. It is certain that a difference of stature can be maintained between the breeding and working portion of a race, because we see every day Pony Mares producing to full sized Race Horses an offspring which, when reared on rich food, is much larger than themselves. If small Mares full of vigour could not be made to produce an offspring larger than themselves we could not increase the natural size of the Horse.

The material object to look to in a Brood-mare, next to race, is true symmetry of the skeleton, accompanied with a full amount of pure muscle. This symmetry is a chain in which no link must be defective: if there be such, the strength of the whole is impaired. Any defect in the symmetry of a Horse impairs its power under severe exertion. The stature of a race of Ponies, whose skeletons are true to nature, is easily enlarged; the breeder's course is easy until coarseness or weediness supervenes on structural enlargement. Some Mares may be pushed to a much greater stature than others without prejudice to their symmetry; and these larger Mares may produce foals both powerful and speedy; but they will not be so vigorous as the foals of smaller Mares having equal symmetry.

It is important not to draw general conclusions from single facts which are exceptions to the mass. A Mare of high stature may have good symmetry, and may breed a good foal—horses bred in-and-in may run well; but it does not follow that breeding in-and-in can be safely continued; neither can we reasonably conclude, that because some large Mares breed good foals it is safe to render the stature of a race as great as rich food enables us.

If any natural property has become defective throughout a race of domesticated Horses, it can only be restored by recurring to animals nearer to a state of nature. The expedients had recourse to on the Turf are merely palliatives which preserve speed, and avoid coarseness, at the expense of vigour.

The principal difficulty which the general breeder now has to contend with consists in this,—while a certain portion of Cart-horse blood in a cross with the modern racing Stallion will not compensate his want of useful symmetry and constitutional power, a larger portion of Cart-horse blood leaves the offspring without the action of a good Saddle-horse. When we now see a Horse with an open chest, a compact and muscular form, it has usually the upright shoulder-blades of the Cart-horse, from which it derives its compactness, and, though suited for harness, has rarely the action of a good Saddle-horse.

Our system of breeding Saddle-horses is thus in a state of continual oscillation; the young stock have either too much bad blood to be compatible with action, or too much racing blood to be consistent with strength. The moment the Cart-horse blood is sufficiently diluted to secure action, the breeder usually finds that his stock has lost the strength which induced him to have recourse to that blood.

We have now few Mares which unite sufficient breeding with good symmetry. Both parents should be vigorous, but especially the female. The sensible power which immediately enables a Horse to carry much weight at a rapid pace is partly muscular, partly mechanical; this sensible power is, however, only the exponent of one which is immaterial.

More muscle is now often found in our tall than in our low sized Horses; the stature of these being low only because they are weedy. So long as we breed from a long-backed, flat-sided, and highly delicate Racer on one side; and a Cart-horse on the other; or from an animal between the two; we cannot by any contrivance produce an adequate supply of compact, powerful, and sufficiently well bred Horses for the saddle.

Some of our Racing Stallions which have ceased to run, look well to the eye from their defective symmetry being covered by fat;—when brought into working condition we find them all flat-sided. Horses belonging to a good race having the ribs sufficiently expansive, the limbs and back short, the chest well expanded upwards between the shoulder blades, these blades long and deeply inclined into the back, the hind quarters somewhat long, and the hind feet well forward; will possess a power derived from good symmetry which can only be estimated under a trial which tests speed, stoutness, and the power to carry weight. A Horse with a long back and flat sides may gallop well; but he must be reared at a great expense; and can afterwards neither work often, or carry more than a light weight.

If good symmetry denotes vigour, bad symmetry denotes a want of it. How often we meet with Hunters which go well for a single day, but require far more than the ordinary time to recover from the exertion. This want of vigour is never displayed by a Horse whose symmetry and breeding are good. When in working condition the exact form of skeleton, and the amount of true muscle being seen; it becomes easy to determine pretty correctly by merely looking at the animal how much weight it can carry, and whether it is equal to much work. We cannot guess the speed of a Horse for a short distance by his appearance, because this class of exertion has little connection with the form which denotes vigour.

The object of the general breeder in a highly civilized country is to produce as many Horses as possible having good action united with the power of carrying considerable weight. We cannot however have a sufficient supply of these at a reasonable price; or at one which is in just proportion to the rest of a farmer's stock; so long as the breeding animals remain defective in vigour. Horses which are only reared to the necessary size by very expensive food, cannot be sold cheap.

The price of Horses depends on the value of the food which is required in rearing, and the degree of skill exerted in breeding them. Whatever may be the industry of a country, much of the value of its artificial productions will depend upon the skill, with which its industry is directed. Horses having much structural power combined with speed, are artificial productions. When these are produced at a cost little exceeding the value of the food they consume while rearing, they can be afforded by the breeder at a reasonable price ; and they then become of great national importance. A Horse belonging to a coarse race, having more muscular power than is natural, may also be called an artificial production ; but it is one which can be produced with scarcely any skill, and can in consequence be usually purchased at the value of the food it consumed while growing. Such an animal is valuable, but its value resembles that of cattle ; being that of the food consumed in the rearing.

The price of a good roadster far exceeds now the value of the food it consumed while rearing, and it is impossible to account for this, but by concluding that there is a want of skill in the production. If a commodity for any reason continues to be not so good as is desirable, the loss which results falls on those who use, and not on those who produce the commodity.

CHAPTER VII.

CONTENTS:—*Effects which after a time result from keeping Horses as a race, tied up by the head in Stables for so large a portion of their lives—this practice of recent origin—constituting an additional reason for separating the breeding from the working animals.*

BESIDES being delicate and expensive to rear, our Saddle-horses are very subject to lameness. This is the consequence of their artificial existence, and of our making no distinction between the working and the breeding animals,—subjecting nearly all to stable treatment and severe exertions on a hard surface.

The custom of keeping Horses generally tied up by the head throughout the year in hot stables, is of recent origin in this country. Eighty years ago, many persons continued to keep their hunters in straw-yards in England. In Ireland, within that time, the richest people kept their Hunters always in the fields, supplying them with a sufficiency of corn. This system was well calculated to preserve the Horse's sinews and feet.

It is now maintained that hunters cannot safely be turned out to grass even in the summer. Our ancestors would have smiled at such an assertion as this, and with reason, as respected the Horses of their time, but it is true as respects those of the present day. There is now risk attending the turning a well-bred horse out to grass even in the summer, and if the season be wet the risk is great.

Mr. Turner has shown, in a creditable little work, that the want of motion which results from tying horses by the head for a great portion of their lives is a principal cause of some of that disease now so prevalent in our horses' feet. Shoeing injures these, because, interfering with their expansive and contractile nature, transferring all the pressure from the frog, where nature intended it principally to rest, to the crust ; still it does not account for the whole extent of the mischief.

The effect of shoeing a Horse only with tips when its feet have become contracted, and then sending it to plough on clay land, shows satisfactorily the good to be derived from pressure on the frogs. The frequent success of this remedy shows how essential is motion to the maintenance of the healthy functions of the horse's feet. The pressure on these while the animal is at rest is small compared with that which attends any motion requiring considerable exertion.

Sir Francis Head showed us some time ago the limb of a Horse which had died on the summit of the Andes. Nothing it seems can be more difficult than this ascent, the surface being covered with loose and angular stones ; yet the crust of this foot, which had moved over it just before the animal's death, was as smooth as if it had been rounded in a lathe. The animal had been reared on the Pampas, in a condition essentially of nature, and the state of its feet, when contrasted with those of English Horses, shows how desirable it is not to abridge too much the exercise, or render too artificial the condition, of such of these animals as we permit to propagate their species.

It appears that the Horses of the cavalry in some of the German states are rarely shod, and that in some parts of the Empire the post-horses are unshod, though travelling over hard roads. In alluding to these facts it is not intended to suggest that English horses should be made to work without shoes, but to show how desirable it is to draw a distinction between the animals intended to propagate their species, and those intended to work. We now meet every day with young horses which have not been worked labouring under local disease of the feet or pastern joints. This must be hereditary; the result of unnatural habits continued for several generations.

The soles of our Horses' feet are often so thin that they do not, even with the aid of shoes, sufficiently protect the sensible parts of the foot. When a Horse is kept in a stable and worked hard, its feet scarcely grow at all; and if they are then injudiciously pared, as they often are by our smiths, the injury is serious. Thin soles, like contracted feet, are the consequence of abridging the natural exercise* of a race of horses through many generations. It is found in fox-hounds, that their sinews become too small and their feet too flat to bear severe work, when they are confined while growing in too limited a space.

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* In London, where so many Saddle-horses are kept in the most unnatural condition throughout the year, their feet would be greatly benefited by some rides being set apart in our parks

Nature has made a peculiar provision to enable fleet animals to bear the concussion attendant upon rapid motion without local injury; and when these creatures are domesticated, we shall do well to avail ourselves as far as is practicable of the means pointed out by nature for maintaining this living machinery in a healthy state. The work of a fox-hound is very severe; their course is constantly obstructed by obstacles which they jump or clamber over, when highly excited, with a force which tries severely their feet and sinews.

Some portion of the limbs of our Race-horses is now continually failing before the animals have run, and few are able to run more than two or three races without some defect appearing in the limbs which disables them from running again. If such animals have proved themselves speedy, they are bred from as a matter of course, without any reference to these local defects. This is a natural course for persons to pursue whose only object is to win heavy stakes.

If fashion or necessity places our Horses in a very unnatural condition,—one which we find by experience injures them both constitutionally and locally, it becomes desirable not to allow the defects of individuals thus injured to deteriorate the race.

formed of material sufficiently soft (without any admixture of loose stones) to allow the horses' shoes to sink through it; leaving much of the pressure upon the frogs.

CHAPTER VIII.

CONTENTS:—*Reasons which induce Foreigners to purchase English Horses—Absence abroad of any System calculated to maintain a fine Race of Horses in the Possession of fine Properties—Our System of breeding Horses may have Merit without being so good as it formerly was—Peculiar Situation of our Farmers as breeders of Saddle-horses—Government called upon to move out of its ordinary Track in order to influence the Quality of our Horses.*

BEFORE proceeding to point out a remedy for the defects in the system under which our Saddle-horses are now bred, it may be right to anticipate a question which will be asked by some of our readers;—namely, how it happens that with the defects pointed out, our Saddle-horses are so much sought after on the Continent?

Foreigners, not breeding their Horses under any well-organized system of art, have none which unite much structural power with speed. Their Horses are hardy and useful for many purposes; but when powerful, they have little speed; and when speedy, they are deficient in stature.

Under such circumstances it is not surprising that foreigners riding for amusement should purchase our Horses. When fatigue is to be endured, or much work to be done, they do not use them. The reasons which make them wish to ride our Horses, induce them to breed occasionally from our racing Stallions. Great as may now be the defects of the English Racer, foreigners in their present state of information can only increase the speed of their Horses through the medium of ours.

Whatever may be the value of our Horses in comparison with those of other countries, they are deteriorated for useful purposes. Many people admit the difficulty of buying now a good Saddle-horse, but affirm that this arises from the best being bought by foreigners. According to this notion, an increased demand for a commodity deteriorates its quality, whereas an increased demand creates after a time an increased supply, unless this is prevented by some physical obstacle—in the absence of this, a great demand for an article may improve, but cannot injure its quality.

Without a “ Turf,” or a good substitute, our Saddle-horses would have little speed. A system may lose a part of its utility without losing the whole. If our Race-horses be still swift, it is not unnatural to regret that they are no longer vigorous; no longer able to carry the old weights; no longer possessed of that form which is best calculated for national objects. The present condition of our Horses, as well as that of the Horses on the continent, demonstrates, that while a fine union of natural and acquired properties is desirable, it cannot be secured without the aid of a system which is beyond the range of private exertion; in other words, that the best class of Horses is not produced under the general principle of " supply and demand."

If it be true that the system under which our Race-horses are raised has become defective; it is equally so, that there is nothing in the system calculated to right itself. Our " Turf" is dependent on the pleasure of a club of gentlemen associated only for an amusement which in no degree depends upon the nature of the Horses as a race. These persons have no sufficient motive for looking to the future rather than to the present—to national, rather than to special objects.

How is it that our well-bred Horses, when powerful, all attain a large stature; while the price of powerful and well-bred Horses of moderate stature is extravagantly high? Our Farmer must wish to produce the Horses which are most esteemed, and if they do not produce a supply of such animals equal to the demand, we may conclude that they fail from want of power, and not from want of will. They have a sufficiently strong motive to serve the country well; but they have no controul over the quality of the Racer. This animal has become defective for their purpose; yet it is not in their power as private individuals to substitute a better. No individual can be expected to send to the East for Horses; much less for such a number as affords a sufficient choice for continued selection, and for avoiding too close alliances of blood. The selecting a judicious test, strictly maintaining it, together with a registration of pedigree, call for an extensive and well-organized system exceeding the limits of individual exertion.

When a recurrence to fresh blood is expedient as respects Cattle or Sheep, there is a sufficient choice of more vigorous animals at hand; rendering a recurrence to them only a matter of opinion, not one which is to commence with a heavy outlay of money. This advantage is not enjoyed by the breeder of Saddle-horses.

Commodities of national importance are usually produced by private individuals who look to a present and not to a future reward. If a fine race of Horses can only be maintained in the possession of the most useful union of properties by a system which considers the future as well as the present, government is called upon to move out of its ordinary sphere-—not to supply the community with Horses, but to influence the quality of that supply—to do that which individuals have not sufficient motive to undertake.

If it be expedient for Government to interfere in this matter, what course should it take? Should the present bounties under the name of Plates be increased? These are useless, unless accompanied with regulations capable of ensuring the object for which they are granted. The regulations attached to the plates have been long practically avoided under an allowance of weight in favour of young horses; by shortening distances, and doing away with heats. These bounties, though amounting annually to a considerable sum, could not, probably, in future be made to influence essentially the breeding of our race-horses. While the stakes continue so heavy as at present, horses will be bred to win them rather than any sum which the Crown could be expected to grant.

We want a class of Horses bred under a system which holds the balance even between speed, stoutness, and structural power. No system can reduce to an exact level the speed and stoutness of a race; but a judicious system will maintain symmetry without any serious defect, securing to us a supply of horses having compact and muscular forms without coarseness. With equal symmetry some individuals will be better than others: from the former we should breed, but without following this blood after any essential fault appears. A good huntsman does not breed from a hound which wants any desirable quality. How different is the course pursued on the turf. Though a single short race unfits a horse to run again, yet if he win it he is selected for breeding. The property which enables a horse to win on the turf is that which it becomes the sole object of the breeder to secure. Under this system transient speed may be maintained while every useful quality is lost. The "Turf" as a national establishment rests on the principle that continued selection for a quality improves it. It is equally true that exclusive attention to one property is followed by the deterioration or loss of the rest. If it be desirable to maintain in a race of horses the best combination of qualities, rather than one quality to the exclusion of the rest, all the properties in this combination must be sufficiently tested, and continued selection appended.

What is it which makes the breeder of fox-hounds look to stoutness as much as to speed, but the nature of the animal the hounds are required to kill? The fox being intensely stout as well as swift, such must be the character of the hounds. This it is which renders the appearance of a fine pack of fox-hounds so uniformly good. One dog is not formed for speed, and another for stoutness, but all exhibit a symmetry which combines stoutness with speed. If the natural, but fixed standard, by which the merit of fox-hounds is necessarily tested, ensures a union of fine qualities, is it not worth while to try if the same result cannot be secured in horses, by erecting a standard which, though artificial, is fixed? Such a test must be searching without being injurious; and must be adapted to that condition of a race of horses which affords the best union of natural and factitious properties. After this, the race must be made to adapt itself to the standard, and not the standard to the race.

Hounds are more easily maintained in perfection than horses, because the properties required in them are less conflicting. Their food is little modified, and little comparative increase of natural structure is required in them. They are not obliged to go through a severe course of previous training before brought into work; and this does not quickly disable them, like racing, from working again. The tasks they perform are great, but they are equal to them. Still it is known that a fine union of speed and stoutness cannot be maintained in these animals without care and skill; and their forms denote this union. We find in a good pack of hounds no contracted chests, no weak loins, no small tendons or unnatural feet.

If so much care is required in the management of these animals, how much more difficult must it be to maintain in a race of Horses the three qualities of unnatural speed, unnatural structure, and sufficient vigour. These properties are so conflicting as to render a recurrence occasionally to animals nearer to a state of nature unavoidable. The best practical combination of properties can never be long maintained in a race of Horses, unless a considerable number be bred under a highly organized system.

Private individuals will not act for posterity, and the ‘‘ Turf’’ has failed us. Nothing less than a public establishment can be expected to pursue steadily a system which looks as much to the future as the present. We not only want good Saddle-horses, but we want them at a reasonable price: our Farmers must be enabled to breed from parents on both sides sufficiently vigorous to produce an offspring which can be reared on the least expensive food which suffices properly to nourish the species after its stature has been sufficiently enlarged for our purpose.

CHAPTER IX.

Contents:—*Course to be taken by a National Establishment, the Object being to influence the Quality of our best Breed of Horses.*

A NATIONAL Establishment should commence its functions by obtaining from the East a considerable number of well-selected Ponies. The better portion would be found to possess much natural speed, stoutness under severe exertion, with limbs and feet peculiarly adapted for moving rapidly on a hard surface. It would be puerile to bring from so great a distance such ill-shapen and attenuated creatures as those now usually imported under the name of Arabians; or to employ persons to purchase who have not had experience of the best Horses under severe exertion. They would search in vain amongst Oriental Horses for those properties which are acquired under a system of continued selection. Looking only for natural qualities they should select animals as nearly in a state of nature as they could find them; having good symmetry, a full amount of muscle, and whatever natural speed the best animals, of the best race, are found to possess.

When brought home a further trial should be made. In this we should be content with a degree of speed which is natural, and an amount of structural power as nearly natural as could be procured. The offspring of these small Horses should be tried in each succeeding generation; and we should be satisfied for a few years to see the natural speed of the race gradually augment; retaining only for breeding, such as went through their trials satisfactorily.

It would be folly to buy Horses of large structure in the East; such would be found to have less speed than the small ones, while factitious structure can be given here with only too much facility.

Whenever the public shall become alive to the deteriorated condition of our Saddle-horses, and anxious to obtain such as are more useful, the first step must be a recurrence to nature for those properties which art has destroyed. It has been shown that, in the absence of fresh blood, the elongated skeleton of the modern Racer can only be shortened by a process which would render him a starveling. The character of the whole race has been reduced in this respect to a common level. Some individuals may be more compact than others, but all have lost something which fresh blood only can restore. If we rear them at a reasonable expense, their growth is stunted—if on rich grass, they lose their speed. Whether we try to renovate this exhausted race, or substitute another, the objects we seek are a more compact form and greater vigour; and these can only be found in Horses which are nearer to a state of nature. So long as individual differences in a race enable us to correct individual defects, we may dispense with fresh blood, but no longer.

A national establishment having selected Horses from amongst a fine race, distinguished from their companions by their symmetry, their natural speed, and full amount of muscles, should carefully observe how far the artificial properties afterwards given to the race, diminished its natural ones. A mass of facts would after some years be obtained and recorded, calculated to throw for the first time a steady light on the distant, as well as proximate, consequences resulting from factitious causes. These facts are not likely to be collected under any system less permanent and comprehensive than one under the controul of a national establishment. Its stock should be divided into two portions; both should be placed under the influence of continued selection for speed and stoutness; but one should be maintained at a structure as nearly natural as possible. With such conflicting properties as speed, vigour, and great structural enlargement, a reserve of more natural animals cannot be dispensed with.

The enlarged portion of the stock should again be divided into two classes, one being kept for breeding, the other for working; the size of the former should be allowed to become as large as is required to enable it to produce animals sufficiently powerful for working. Every effort should be made to keep down the stature of the breeding animals to that point which suffices, by the aid of rich food, to produce working animals sufficiently powerful; increasing the stature of the race as little, and that of the individuals as much as possible. In breeding Horses of the best race it might be found desirable to have one portion less speedy, but more muscular, than the other, in order to meet that variety of demand which exists in a highly civilized nation. There should be a certain amount of foreign blood in the Horses of our heavy cavalry; but foreign Horses having a degree of speed which is incompatible with much muscular power, are not so well calculated for heavy cavalry as Horses with less speed, but with more muscular and constitutional power. *Mambrino*, *Sweet William*, or *Sedbury*, were better fitted for producing proper stock for cavalry than *Sharke*. This animal was more advanced by art than the earlier Horses as respects speed; but he was not so well calculated for enabling us to produce powerful Saddle-horses. If a foreign race is to assist in the production of our heavy cavalry Horses, it must possess as much structural power as can be combined with a sufficiency of action, vigour, and power.

The natural qualities of the Horse are found nearest perfection when they are in a condition the least removed from one of nature. Artificial structure is obtained by rich food, and artificial speed by continued selection. The course of the breeder is easy so long as it is in one direction; that is, in advance. When, however, the form of a whole race has become deteriorated, the symmetry which is lost can only be recovered by going back to nature. A national establishment would, in this case, renovate the enlarged portion of its stock by having recourse to the animals whose stature had been little enlarged. Such an institution should ever be at work preparing smaller animals by means of trials, and continued selection, for being crossed when required with that enlarged portion of its stock which from time to time became deteriorated. The smaller animals, until wanted, should be kept in a state as nearly as possible of nature. They would thus retain their vigour while acquiring all the advantage derivable from continued selection; they could be maintained at the least possible expense,—at one which the sale of the annual draughts would nearly or wholly repay.

If a new race were to be formed, under the system we have now recommended, capable of running long distances, and carrying much weight without distress, premiums might be again granted to the winners of certain tasks upon the turf. To attempt to make modern Racers run longer distances, or carry more weight than at present, would be both cruel and useless. A national establishment undertaking to form a new race of foreign horses could not be said to succeed, unless it supplied the country with horses as swift, stout, and powerful as the earlier Racers. Knowing accurately the powers of the new race, it could point out the nature of the running for which premiums might properly be granted; and great tasks might again be performed on the Turf, without any of the cruelty which attends the present running. How far bounties can in future be made to influence the proceedings of the Turf, by competing successfully with heavy stakes, can only be ascertained by experience.

The stallions whose stature had been adequately enlarged in the establishment for supplying the demand of the farmers in the great breeding counties should be let out under strict regulations, or maintained by the establishment in those counties in a condition best calculated to preserve their vigour. Mucilaginous food and other expedients had recourse to by private individuals to make the animals very fat, should not be resorted to; the stallions of a national establishment should make their way to public favour by the goodness of their stock. No horse should leave the establishment as a stallion labouring under any essential defect. If a public establishment supplied the breeding counties with the best class of stallions at a cheap rate—bred within its own precincts a limited number of the best class of horses for different purposes,—allowing the parents and their offspring to be freely inspected: the public would be enlightened by example; and becoming gradually accustomed to see the best forms, would no longer be satisfied with bad ones.

In determining on the utility of some such plan as that proposed, the reader will do well to ask himself the following questions. Is there a strong disposition in every fine race of the Horse, whose structure has been enlarged by unnaturally rich food, to become either coarse or weedy? Are the means adopted on the Turf to prevent coarseness more than palliatives? And are not some of them objectionable? Is it not better to recur to nature, when art has disposed a domesticated race of horses to coarseness, than to such a palliative as that of breeding on one side from old parents? Is not this substituting weediness for coarseness?

If we adopt a system under which both coarseness and weediness are avoided, by recurring when necessary to fresh blood, we should be able to rear and work horses at the least possible expense. Under this system any essential loss of vigour would be instantly repaired by the most economical means. In maintaining vigour in a race of horses without coarseness, we should have laid the best foundation for giving to it those artificial qualities which result from annual trials, and continued selection.

It is in our power to modify greatly the acquired as well as the natural properties of Oriental Horses; but we cannot combine the highest degree of transient speed, with the compact skeleton and muscular power displayed by the earlier horses, and required when great distances are to be traversed, or much weight to be carried.

CHAPTER X.

CONTENTS:—*The Principle of Selection applied to Racers extended to some of our Breeds of native Ponies—none of these to be enlarged unless their Form and Action were satisfactory—Desirable to ascertain how much the Stature of our best Races of Ponies can be enlarged without too much loss of Activity or Vigour—Advantage which would ensue from rendering the best Race of Native Ponies available for the Purposes of the General Breeder.*

ALTHOUGH our Farmers will always have as at present to provide Mares to cross with the foreign race; their quality ought to be sensibly influenced by a national establishment. Our Cart-horses are hardy and sufficiently good for slow draught, but few are exactly formed for taking a part in the breeding of good Saddle-horses. Nearly all these having Cart-horse blood in their veins, and our Cavalry Horses being full of it, it is obvious that the form of the Cart-horse is important. The Mares belonging to this breed which take a part in the production of our Saddle-horses, besides having short legs, short backs, and strong loins, should be distinguished for their activity. If continued selection does so much for the

Race-horse, some selection must improve the breed with which the Racer has to be crossed. A national establishment should not confine its attention then to a foreign race; it should provide a limited number of Horses of a more powerful race as crosses for the foreign one. It must prove its superior knowledge by facts which it creates—by animals it produces. It should, in the first instance, breed a certain number of Horses eminently calculated to carry both classes of our cavalry. The superiority of its stock must be proved by trials in which several hundred Horses of the old and the new classes are engaged. If a public establishment cannot enlighten our Farmers by example, its precepts will be little valued.

Besides performing the duties pointed out, a public establishment ought to institute experiments on every pure race of British Ponies. We cannot now determine if these are indigenous, neither is it necessary; they have occupied some of our districts of unreclaimed pasturage for centuries, and the best are excellent. There can be little doubt that our Saddle-horses were for a long period obtained principally by enlarging native Ponies. Doubtless foreign Horses were at an early period imported; but there is no reason to suppose that the number was great. Sir Thomas Challoner, our Ambassador in Spain in the reign of Elizabeth, ridicules the practice of importing foreign Horses; and affirms, that those of England were the best and the most beautiful in the world. As this gentleman must have been well acquainted with the Andalusian Horses, his high opinion of what he considered our native breeds is entitled to attention.

Considering the excellence of some of our breeds of Ponies while at their natural stature, and what admirable Saddle-horses are now sometimes obtained by crossing them with the Racer, it is surely time to ascertain the degree in which we can beneficially enlarge their stature while maintaining the purity of their race. The experiments for this purpose, to be satisfactory must be on a large scale, as it cannot be expected that all the animals withdrawn from a state of nature will bear it equally well. Some would probably lose their natural symmetry and activity, while others would retain those qualities.

Every Pony of a pure race, or that has not been crossed by a Horse of factitious stature, is strikingly muscular when compared with any enlarged Horse of equal breeding. When a Horse is in at all a natural condition, its chest is very wide towards the tops of the shoulder-blades, these being covered with a great mass of muscles, yet so rare has it become to see this form in well-bred horses, that it is often thought incompatible with fine action; such animals are said to have thick shoulders. The shoulders are two thin blades of bone, and are essentially the same as to substance in all Horses. If these blades have sufficient inclination they cannot be too wide apart towards the withers, or the withers too muscular. Such was the form of the Godolphin Arabian, and such is that of every vigorous Horse. If the chest of the Pony was not extremely capacious for its height, and covered with a large amount of muscle, its stature could not be beneficially enlarged. In elongating the skeleton of this animal, the amount of true muscle on a specific surface of bone is always diminished. What we want, is to elongate the natural skeleton with as little loss of muscle on a specific surface as is possible. The moment we domesticate this animal and enlarge its skeleton by unnatural habits, it is disposed to become coarse if the food given it be rich, and weedy if it be poor. Breeding in-and-in produces constitutional weakness; the animals in this state may become fat when supplied with rich food, but they will be weedy or wanting in muscle upon common food.

We occasionally see Ponies as much as fourteen hands high, with fine action, broad and muscular withers, strong loins, and a very muscular neck; while the muscle is extremely firm, and no symptom of coarseness to be detected in any portion of the skeleton. The large amount of muscle on a given surface of bone, together with the fine limbs of cattle in a state approximating to one of nature, are well-known to our graziers, who, it has been shown, have recurred with advantage to such animals when their large and factitious ones have become deteriorated. The same principle should guide us when we want to renovate a breed of Horses.

To experiment properly in this matter it is necessary that a public establishment should appropriate some extensive district of unreclaimed and bad pasturage to the maintenance of a large body of Ponies

These should be interfered with only to the extent of severe selection, founded on annual trials; taking the animals for this purpose from their pasturage for a few days during the summer, and tying them to pickets. Here they should be closely inspected, and after the best formed had been selected from the rest, they should be taken ten or twenty at a time by rough riders of light weight, and submitted to a trial of some hours duration. The animals which went through this satisfactorily should be divided into two portions—one should be returned to their old pasturage to remain at their then stature; while the other portion should be made to occupy a somewhat better pasturage, in order that their offspring might acquire greater stature—the rest to be draughted and sold. When old enough the enlarged stock should be tried, and such as went through it well should be kept, and turned out into a little better pasturage than that in which they had been reared; while those rejected should be draughted and sold. It is only in this very gradual manner that the stature of a race can be increased to the point required. Ponies of a pure race being so vigorous as to be wholly unfitted for rich pasturage—they become upon it balls of fat.

When the immediate offspring of a cross with so coarse an animal as the Cart-horse suits our purpose it is the best, because we get great power at the least expense. The coarse Ponies from which the Cart-horse is obtained, being enlarged into powerful animals, on indifferent herbage, are subjected to less loss of vigour by this process than are better bred Ponies, when these are made to acquire by means of much richer food an equal amount of structure.

If the immediate offspring proceeding from a cross between an animal of the finest and one belonging to the coarsest race suit our purpose, it is well; if not, we must have recourse to a cross whose immediate offspring is what we want. By getting rid of cart-horse blood, or any objectionable qualities in both parents, we should render the breeding of the best class of Saddle-horses a business attended with scarcely any uncertainty. Young horses old enough to work could then be bought for little more than the value of the food they had consumed while growing; and this food would not be richer or more expensive than the artificial structure of the animals rendered indispensable.

At present we are content to wait two generations before we even expect a Saddle-horse of the best class, from a cross in the first instance between a Racer and a Cart-horse; submitting to all the uncertainty attendant upon trying to breed a fine class of Saddle-horse from an animal having such objectionable qualities as the Cart-horse. These qualities often break out after the bad blood from which they spring has been so copiously diluted that only a minute quantity remains.

It is then desirable to produce from amongst the best breeds of our native Ponies such a cross for the foreign race as will in most cases ensure the immediate offspring of the first cross being suitable for the saddle. We cannot doubt this being practicable, the best Saddle-horses we possess being now occasionally produced by crossing the Race-horse with a Pony Mare. This experiment often succeeding with one of the parents so ill fitted for taking a part in it as the modern racer, there is every reason to conclude, that with parents properly constituted on both sides, the breeding of the best class of Saddle-horses might be accompanied with little uncertainty.

The great choice of Ponies enjoyed by our ancestors when the country abounded in extensive districts of unreclaimed pasturage no longer exists. The number belonging to good races has become small, and continues to diminish. They are now often found either too nearly related, or deteriorated by their race having been crossed with enlarged animals leaving the produce to subsist on natural food. The best of them are often sold for working, and little selection exercised in respect to those which are allowed to propagate their species. By one or other of these causes, the finer races of our Ponies will soon be spoiled, or destroyed. Whenever this occurs we shall be deprived of the best source from which to draw a part of our materials for forming once more a good breed of Saddle-horses.

A Pony may be perfect as an animal without having that precise form and action best calculated for our service. We have now very few belonging to good races whose form and action are what we want. As a substitute for the great choice of Ponies enjoyed by our ancestors, we ought now to select the best that are to be found, and place them under the influence of continued selection. We should then obtain from a limited surface of unreclaimed pasturage a greater number of animals, eminently fitted for the saddle, than our ancestors, in the absence of such a system, could probably obtain, when a large portion of the kingdom lay uncultivated, and filled with animals in a state of nature.

Doubtless cart-horse blood is found in excellent Saddle-horses; but experience shows that breeding these is a matter of chance while any essential quantity of this blood is present in either of the parents. A great demand for Harness-horses renders this uncertainty of less moment by absorbing many of the young horses which now fail for the saddle; but until the production of a good class of Saddle-horses is attended with far less uncertainty than at present, their price will greatly exceed the value of the food they have consumed in rearing.

It would be desirable to procure horses in nearly a natural state from every country where they display good natural action, and much stoutness. Nothing should be taken on trust by a public establishment: it should not conclude that any race is best until it has tried Ponies of every race whose natural form and natural action are promising.

Coarseness or weediness, according as the animals are fed, are properties which may be expected to supervene after a fine race of horses has been some time domesticated. Fortunately these defects are developed only gradually under a judicious system of management. If they can be avoided for several generations we ought to be satisfied; having as we should, a cheap and certain remedy in a sufficient number of well-selected Ponies. The period when fresh blood might be required would be long or short, in proportion as the distinction between the breeding and the working animals was more or less rigidly maintained. A collateral advantage would result from keeping down the stature of the breeding Mares,—the Farmers would be less tempted to sell while young those best calculated for breeding; the low stature of such Mares rendering them less valuable in the market than the more enlarged portion of the stock. At present the best Mares are sold to Gentlemen who work them until unfit to breed from. The fewer there are of the best class, the less chance is there of any being bred from until no longer fit for the task.

Neglecting to maintain a distinction between the breeding and working Mares, it becomes the more desirable to have a system steadily at work calculated to renovate a race of Horses that has been for some time in a highly unnatural condition. A public establishment ought for some years to proceed with caution; incurring scarcely any permanent expense until its usefulness was proved. The selection of a proper pasturage for increasing the size of the better races of Ponies would be found important; it must be thoroughly and naturally dry; a hilly lime-stone district, not made factitiously rich, would probably be the best.

If a proper system be laid down, and this skilfully and zealously administered, we are confident a union of power and action will be produced in the Saddle-horse which has seldom been witnessed. Should, however, the Horses bred from parents on both sides produced by the establishment, not testify the most striking superiority over those we now possess, the experiment must be held to have failed.

In considering the nature of our present system of breeding, we must ever keep in view our immense annual demand for Saddle-horses of the best kind. There are in many countries on the continent very opulent individuals who buy the best Saddle-horses they can find, but their number in any one of these countries is as nothing compared with the number of wealthy persons here, where the demand for the best class of Saddle-horses exceeds that of all the other European nations put together. It would be strange indeed if this demand did not secure to us a supply of Saddle-horses of a higher class than is found in countries in which there is scarcely any demand for such animals. Giving to these circumstances their due weight, they leave us little to pride ourselves upon in this matter on the score of skill. When we now occasionally meet with a Horse having much of that great power which results from a good skeleton, much muscle, fine action, and good breeding, its great price proves the difficulty there is in producing it. The small number of such Horses, while the demand for them is so great, shows that our system of breeding must be faulty.

If ever the country shall learn to appreciate brood Mares of low stature, having true symmetry, great vigour, and consequently much true muscle—the present system of breeding from old animals, while no longer necessary, will be no longer proper. In breeding from this class of Mare, when both parents are sufficiently well-bred, a coarse offspring is rare; but if the parents be old, the offspring will be small.

CHAPTER XI.

RECAPITULATION.

WE have shown where our breeds of Cattle have stood the test of time, and where their existence has been ephemeral. No grazing Cattle are superior to those which are nearest to a state of nature, because we require in such animals no qualities but such as are natural. We have pointed out how the breeders in Devonshire and Herefordshire have continued so long to produce large Oxen with little loss of either hardiness or activity. So long as sufficient vigour is maintained in that portion of a race which is permitted to propagate its species, it matters not how large individuals may become.

We have seen, by an account of the Cattle in the Hebrides, that whatever privation and consequent disease, Cattle in an almost natural condition are exposed to, they recover entirely or perish. We have also seen that our dairy Cattle acquire, when their pasturage is rich, a very factitious size, and yield an unnaturally large amount of milk. This is perhaps desirable where the pasturage is rich enough to maintain large Cows in good condition. So far, however, as the history of these factitious animals is recorded, we have reason to believe that they require after a few years to be crossed with such of the species as are in a more natural condition; the means of doing this are usually at hand. It is evident that the ephemeral existence of certain races of Cattle may be referred to factitious habits.

The true Pony is properly nourished on the worst herbage, works well on grass of poor quality, and so great is its natural vigour that much can be dispensed with under a judicious enlargement of structure.

Saddle-horses are in a more delicate and unsatisfactory state than Cattle, because requiring for our service a combination of more conflicting properties. We have seen that the " Turf" commenced with Ponies, and that for a long period Horses under fourteen hands were found amongst the best Racers. In the East it seems the fleetest Horses are yet little more than thirteen hands high. There is no doubt that the natural speed of a good Pony is greater than that of any animal of the species whose stature has been much enlarged without its race having been for some time under a system of continued selection for speed. Without some such system as this, it seems impossible to maintain great speed, with artificial structure. We are unacquainted with any country that has ever produced Horses which combine fleetness with much artificial power, without the race having been long placed under a well-organiecd system of management.

The Reader has seen that a change of form in our Racers was quickly followed by a corresponding change in the nature of the running—that when the forms of the animals had ceased to be compact, the distances were shortened, and the weights lightened.

It has been shown by what expedients the breeders for the Turf have maintained a good quality of muscle in the modern Race-horse; the accompanying plates prove, however, that the older Horses had more muscle on a specific surface of bone than the modern ones; this fact is further corroborated by the inability of the modern Racer to carry the old weights.

It is obvious that the interest taken in "the Turf," by those who breed for it, in no degree depends upon the nature of the tasks performed; or, on the merit of the Horses as a race. The sole object of every individual breeding for the Turf is to win races, be the nature of them what it may—each of these breeders therefore looks to the present, rather than the future.

There can be little doubt that the tasks performed by the old Race-horses were adjusted to their strength, and that the change in the running was the consequence of diminished power in the breed. It has been said that the modern Racers are equal to running the old distances; but the intense distress they exhibit when occasionally made to run a single heat of four miles, with a light weight on their backs, leaves no doubt that their stoutness is diminished. Their inability to carry weight is yet more sensible—it is not only shown by the change in the running, but by the want of muscular power in the greater portion of our Saddle-horses which have enough of racing blood to secure good action.

While it is admitted that the form of the Saddle-horse should be compact and powerful, this class has become so rare as to obtain in the market an extravagant price. It is impossible to suppose while the Racer exercises its present influence over the character of our Saddle-horses that these can be powerful and compact while the former is the reverse.

If the reader agree with us in concluding that it is the natural qualities of the Racer, such as his form and vigour, which have become defective; and not any acquired property, like that of speed; he has now to determine whether the remedy we propose be the proper one. It rests on this foundation: that as the properties which have become defective are natural ones, we must recur to the source where those properties are found in perfection.

The intelligent reader must perceive that the great size so much admired by the Public in brood mares has been acquired. If these large mares produce the animals we want, they suit our purpose; if they fail to do this, they must labour under some defect which is not altogether of a material character; some higher property has become defective which can only be repaired by recurring to more natural animals. These we can always render large by means of richer food than nature affords; but natural properties can only be renovated by recurring to their source.

We have seen this illustrated by the mode in which the old shorthorns of Yorkshire, and other counties on the North-eastern coast, were renovated by a cross with the almost natural animal.

We want in Saddle-horses a larger skeleton, and a greater aggregate amount of muscular power, than we find in the natural animal; but we must unite with these factitious properties as much of the vigour and activity of the natural animal as is practicable. We cannot dispense with a factitious skeleton, neither can we rely upon it, or lose sight of the natural properties on which it is engrafted.

We find the symmetry of the skeleton in the enlarged horse best adapted for useful purposes, when it diverges least from that which is natural—from that form which we call compact. Horses which are able to traverse a great distance rapidly and frequently, with a considerable weight upon their backs, display this form. This, like stoutness, is an effect, and one which nature only can produce. Large Horses can only be reared on very unnatural food; they are less stout than small ones under exertion, take more time to recover from this, and do not carry weight so well; in other words stoutness, and the power of carrying much weight for a long distance, at a rapid rate, are not dependent on the comparative weight or surface of the muscles; but on a sufficiency of muscles; united with that distribution of the skeleton, which, while it denotes vigour, is mechanically adapted for fine action, and for carrying weight.

The reader has seen how dependent are our Saddle-horses upon the Race-horse; and why no private individual, breeding for the Turf, has recourse to fresh blood. This, to be of permanent service, must be in great amount; in other words, the number of the animals must be great to admit sufficient choice, and to avoid too close alliances of blood. No individual can long maintain a breed of Horses in any thing like perfection; if, after taking some years to form a new race, he is to be sufficiently remunerated by letting out or selling stallions at a high price, the breed becomes ruined by its numbers being too small. A fine race of Horses may be formed, but it cannot be long maintained, unless its number be great, and fresh blood often had recourse to.

If the quality of a fine race could be safely made to depend upon the principles which govern "supply and demand," why has the Crown been so long advised to grant annually a large sum of money in the shape of bounties to encourage our breed of Racers? If interference in this case be proper, it should be rendered effectual.

The English Racer we cannot doubt acquired his enlarged structure by rich food; and his unnatural speed under the operation of continued selection for that property. If our ancestors were able to exercise this power over nature, and if we have the same power, is it not worth our while, now that our horses are become so much deteriorated for useful purposes, to try if we cannot further carry out the system of those who originated the "Turf," by making the principle of continued selection applicable to a union of properties, rather than to one property? If the standard be discreetly chosen for testing a race of Horses—being such as they can go through without distress—should this standard be afterwards lowered because the power of the race becomes afterwards diminished? If not, and if experience proves that private individuals do lower the standard by which their Horses are tested, rather than put themselves to trouble and expense incompatible with individual interest, ought we not to endeavour, in this special case, to effect, by means of a national establishment, that which experience shows is not likely to be effected by individuals? Nothing, it is clear, can long maintain a fine union of properties in these animals, but a test discreetly chosen and steadily maintained. That selected by our ancestors, and continued down to the middle of the last century, was sufficiently searching—it only required to be fixed. The long time the earlier Horses remained on the Turf proves the greatness of their vigour, and the fine condition of their limbs.

It is notorious how quickly the limbs of the modern Racer give way; a single race, nay the preparation for one, often makes them break down. Had the old standard been steadily maintained by which our early Racers were tested, the modern ones would not have been permitted to deteriorate in respect to qualities which, being natural, could be renovated by a recurrence to nature. The modern Racer has not lost speed; he is swifter than the earlier Horses; but he has no longer that form or those qualities which denote sufficient vigour.

If we once ascertain the full extent of vigour belonging to Horses of the best race, in an almost natural condition; if in engrafting gradually on such a race the acquired properties we want, we observe narrowly the minutest loss of vigour which may from time to time be developed; we shall soon ascertain by a mass of facts, carefully recorded, how much of this animal's natural vigour can be united with the necessary amount of artificial speed or artificial structure. The moment a new race of Horses, formed after this manner, has acquired sufficient speed and structure, while maintaining sufficient vigour, our standard for testing this union of natural and acquired properties should be at once erected, and ever afterwards steadily maintained. This at least should be the course pursued with the Horses bred within the precincts of a national establishment. Here, the animals which did not come up to the standard once fixed upon for testing the race, should be draughted, and, if the evil pervaded the whole of the enlarged stock, this should be renovated by a cross with the smaller animals kept in reserve for the purpose.

We have been led to suggest a plan for the management of some of our native Ponies by the small number of the animals left now to choose from. If frequent recurrence to Horses nearly in a state of nature be beneficial, the quality of them should not be allowed to deteriorate. In keeping a considerable number of well-selected native Ponies in a pure state, as respects race, while submitting them to the influence of continued selection, we should place them in the situation of our moor sheep, and hardy Scotch cattle, which, though nearly in a state of nature, and living on the poorest pasturage, are yet subjected to a system of continued selection. To these small but admirable animals we are compelled to recur, when our more factitious sheep and cattle have become too delicate. Under the plan now proposed, none of our native Ponies would be enlarged, or withdrawn from their miserable pasturage, unless their form and action were good: the only change then effected would be a pasturage a little better. Any further enlargement would be made to depend upon the manner in which they had been found to bear the preceding one. This plan, though simple and cheap, would, after a few years, be followed by consequences highly beneficial—we should derive from it practical information which cannot be procured by any system less comprehensive; and if nature be the source to recur to, when the natural properties of factitious Horses are deteriorated, those who breed our Saddle-horses would find that done for them, which we have reason to conclude they will never do for themselves.

The reader is called on practically to determine whether our Race-horses are deteriorated in respect to useful and national objects: and if so, whether the properties which have become defective are natural or artificial ones. If he conclude that their natural properties are deteriorated, he will probably admit that nature is the only source to recur to for a remedy.

CAVALRY.

Defects in the elementary Organization of British Cavalry.

CAVALRY is an important but a very expensive force, and on service if not properly constituted, the wear and tear becomes dreadful. If, however, any nation shall obtain a preponderance threatening our national independence, we must, at whatever cost, again take our place amongst the great military powers of Europe. The nature of our pastures, their peculiar occupation, and the immense annual supply of Horses produced, should, under judicious management, enable us to bring into the field the finest cavalry in the world.

Thinly populated countries can raise at less expense small and highly vigorous horses; but their superiority over us in this respect is compensated by our greater facilities for giving to these animals that increase of structural power which renders them more effective in line.

The military history of modern Europe shows how difficult it is, in a protracted campaign, to maintain Cavalry horses sufficiently powerful to act in line in an efficient state. Whether we look to the great importance of Cavalry, or at the enormous loss which its disorganization entails, every effort should be made to form it of such materials as, with the aid of due discipline, will ensure its not falling to pieces in any campaign through which that of an enemy can bear up. Whatever in peace may be the numerical amount of our military and naval force, it should, as respects organization, be always prepared for a contest menacing the existence of the country.

The great nations of Europe have long been making every effort to improve the organization of their armies; and it will be found, should a general war take place, that some of them have not been unsuccessful. British Infantry is unrivalled; but the elementary organization of our Cavalry, and the materials out of which it is formed, are defective.

This force is divided into two principal classes: one is called heavy and the other light. The heavy regiments are not dressed alike, but all are essentially heavy, and intended to act principally in line.

Light cavalry is distinguished from heavy by having to act much on the out-post, besides in line. Looking at the duties its Horses have to perform, it is obvious that they should be able to move quicker and for a longer time, than those of heavy cavalry; that they should unite with much activity and hardiness, enough of muscular power to enable them to act with effect in line. The horses of this force at present which are sufficiently active and well-bred, usually exhibit a feeble skeleton, and a want of muscular power. While at home, and getting plenty of good food with little work, they do well ; but on service they would soon give way. The horses of this force should display a uniformity of character, by having nearly the same symmetry of the skeleton, the same amount of muscular power, and the same breeding. Admitting this, it follows, that the riders should display a uniformity of material characteristics. The force of all cavalry, next to discipline, is in the nature and condition of the horses; if naturally bad or weakened by any cause, the riders become inefficient. It is true that horses can be found to carry any class of men, but not in the same manner. Soldiers of great stature cannot be carried so fast and far as those of moderate stature. Government allows but one price for light cavalry horses, and this is low; while a large portion of the dragoons when fully equipped require such as could not be bought for six times the sum allowed. Light cavalry horses must be able to move at a somewhat quick pace, and for a great distance; sleep at the bivouac, and maintain their strength often on little or poor food. All this we demand from them, while placing on their backs men six feet, and six feet two or three inches high.

How is it that, with so many reasons for adapting the weight of the dragoons to the power of their horses, and with the ready means of doing this, our light cavalry regiments are recruited on the same principle as infantry? The former in peace do not take men quite so short as the infantry ; but in war they enlist men whose stature ranges from five feet four to six feet three inches. This assertion does not rest on hearsay, but on experience. It is said that the stature of the front-rank men of some of these regiments now averages six feet. We cannot answer for the accuracy of this fact, but it is evident that in the front-ranks of our light cavalry regiments a large portion of the men are not less than that height; that some are taller, while many in the rear-ranks are as low as five feet seven inches.

If it be true that the weight to be carried should be adapted as nearly as is practicable to the nature of the animals best calculated for such a service; how is this selection of men to be defended? In allowing a large portion of the front-rank men to reach six feet and upwards, we are placing heavy cavalry men upon light cavalry horses. It cannot be argued that the horses of light cavalry should be of the same character as those of heavy cavalry. Admitting for the sake of argument so absurd a proposition, it would yet not justify a system filling every light regiment with men and horses of very different character.

Whatever diversity of opinion may exist respecting the best height for a light dragoon soldier, some one height must be preferable to any other.

We want in this service dragoons having a certain amount of strength; if we can get this in men of moderate stature we should select these, because weight placed below the saddle tells with much more severity than weight placed above it. It is the chest and amount of muscle of the body and arms, united with activity, and not the length of limbs, which make one dragoon more efficient than another. A light dragoon six feet high is not necessarily more powerful than one five feet eight inches; while the tasks imposed upon their horses are very different. If a man six feet high has a chest and an amount of muscle proportioned to his height, his weight will not be less than fifteen stones—fully accoutred for the out-post he will weigh twenty stones. If the chest and muscles are not proportioned to the height, what is gained by having light dragoons six feet high? Men of this stature, when well-proportioned and muscular, are too heavy for light cavalry horses; and if not strongly formed, they are for every service inferior to well-formed men of more moderate height. Supposing 500 well-formed men, five feet eight inches high, to wrestle with 500 men six feet high, having contracted chests, and, consequently, an insufficient amount of muscles, we could predict the result with certainty.

When the tall men recruited for our light cavalry are also powerful, they are too heavy for the class of horse which the duties of this force demand; if otherwise, there could be no distinction between light and heavy cavalry beyond that of name. Our light cavalry may, by an injudicious system, be rendered inefficient; but we cannot change the nature of its duties. It has to compete on service with the light cavalry of an enemy in making long, rapid and fatiguing marches, and in submitting to severe privations; it has to head the advance and cover the retreat of its own infantry; to hang on the rear and flanks of a retiring enemy, harassing him at every step, and should be capable, by its speed and stoutness, of withdrawing when necessary before a superior force without being compromised.

If it be true that the courage of the best infantry is subject to ebbs and flows not to be accounted for; how different must be that of dragoons when mounted on fresh or on jaded horses. When a horse has once got as much weight upon his back as he is fully master of, any essential addition tells severely. We learn that in racing it often happens that three pounds of additional weight will make a horse that wins one day lose the next.

Our light infantry is always formed of men of moderate stature but good symmetry; and while carrying the same weight as grenadiers, they march distances and perform duties on the out-posts for which grenadiers are unfitted. If light infantry men are strong enough for light cavalry, why should this force enlist grenadiers? If the tall men in our light cavalry are powerful, they are either under-mounted or they are mounted on horses fit only for heavy cavalry; that is, on animals which want the hardiness, activity, and breeding, required for light cavalry service. The duties of the two forces differing, their physical characteristics should not be the same. Our light cavalry regiments may require men of high or of moderate stature, but they cannot require men of almost every stature.

Private individuals who ride a great weight may, by giving a large price, procure horses capable of carrying them; but cavalry horses sufficiently powerful to carry heavy men, deriving their power from cart-horse blood, have not the breeding and activity required for light cavalry duty.

The movements of a column of cavalry are not regulated by the physical power of its best, but by that of its worst horses. If one portion of it cannot move so rapidly or so long as the rest, it retards the movements of the rest. Bad horses in a column are like slow sailing ships in a fleet: they retard the movements of the whole.

Whether cavalry horses be rendered inefficient by one cause or another—whether the animals be bad or merely overweighted—the result is the same. It is then desirable that the men in our light cavalry should be selected strictly in reference to the character of that class of horse which is best calculated for performing the duties of such a force. Front and rear-rank men of entirely different heights may suit a battalion of infantry, but the two ranks in a regiment of light cavalry should be filled with men as nearly as possible of the same stature.

The reader will probably be surprized to learn that while the lightest men in our cavalry weigh, when mounted with all their accoutrements and provisions, fifteen stones; many weigh eighteen and some twenty stones.

If it be impossible (which we cannot suppose) to select annually out of the whole body of recruits for military service, men of almost uniform height for our light cavalry; the variety of stature should be classed and formed into different regiments. By maintaining uniformity in the character of the men and horses forming a regiment, there would be more unity in its movements.

Heavy cavalry not being called on to take severe out-post duty, its Horses while more powerful, may be less hardy and active than those of light cavalry. Still the efficiency of heavy cavalry horses depends more on a combination of activity and muscular power, than on muscular power alone. In a campaign this force must be able to make long marches, and submit occasionally to privation.

The most careless observer cannot but perceive how much the horses in each of the regiments of the Household cavalry differ from each other; and how much those of one regiment differ from those of another. Many are sufficiently well bred, but these have usually the long back, contracted chest, and weak loins of the modern racer from which they derive their breeding—they could not carry through an ordinary campaign half the weight which would be placed on their backs. If the officers commanding these regiments are compelled, as we doubt not they are, to buy such feeble horses, the fact furnishes us with an important argument for calling on Government to make an effort to influence more successfully than at present, our annual supply of useful saddle-horses.

These tall but feeble horses, with the large men placed upon their backs have an imposing appearance in the streets; but they are not calculated for the most ordinary campaign. At Waterloo these troops were effective, but we cannot hope in future to finish a war at the opening of a campaign. It is impossible for regiments to be better disciplined or more anxiously superintended than those forming our Household cavalry—the defects in this force are the result of circumstances over which their officers have probably no control.

The horses belonging to the heavy cavalry regiments of the line are better calculated for service than those in the Household cavalry, but they yet exhibit too much variety of form. When the men in our heavy cavalry of the line are not heavy, this force is better calculated for service than our light cavalry, because the horses are better adapted to the men. Some of the men in our light cavalry are too tall for heavy cavalry, while others present not only a low stature but a very feeble form. The variety of form in the men of every cavalry regiment in the service cannot be too soon put an end to.

Our Artillery is the only mounted corps in the service whose horses are at all what they ought to be. Foreigners, however, who are acquainted with the appearance of all the great European armies, concur in affirming the Russian Artillery to be the finest body of horses in the World.

If we have accurately described the means resorted to for preserving speed on the Turf, and their consequences, our racers cannot be fitted for taking any part in the production of horses that have to carry dragoons, who weigh, when fully accoutred, from seventeen to twenty stones of weight. If then the many feeble horses now found in all our cavalry regiments are received into them because better cannot be obtained, let us not rest under such a state of things until surprised by the breaking out of a war in which we may have to fight for our national existence.

ARMING OF OUR CAVALRY.

THE giving to nearly all our cavalry the same arms is injudicious. It is true we have lancers in our light, and cuirassiers in our heavy cavalry; but all have pistols and carbines. We do not understand on what principle this uniformity rests. A carbine and pistol cannot be required equally by every man in either light or heavy regiments. The latter have rarely to act as light troops, yet every man is armed with a pistol and carbine. It would surely be better to have a squadron only in each regiment armed with carbines—enabling the men who carry this arm to use it with great skill; the additional weight, together with the nature of the service, should be provided for by mounting the men so armed on the best horses of each regiment. A hundred men rendered perfect as tirailleurs would be more effective than ten times that number taken indiscriminately from our present regiments.

A man armed with a sword and carbine cannot want a pistol. Everything should be done to diminish weight which does not diminish efficiency—every part of the organization of this expensive force should be founded on intelligible and satisfactory reasons.

With the variety of character found in the men and horses of every dragoon regiment in the service, whether heavy or light, this uniformity in the arms is unintelligible. A whole regiment is required to act as tirailleurs, or it is not—if it is, let it be uniformly adapted for such a service; but if it is not, and if the horses of each regiment are, as at present, to display much variety of character; so heavy a weapon as the carbine should only be carried by those men who ride the best horses.

If the present variety in the horses and men of each regiment was even classed temporarily into troops or squadrons, and these tested in peace by being encamped in summer on some of our great downs, and marched every day for weeks over different spaces of ground, within different periods of time, we should know, by well established facts, obtained by experiments on a great scale, what is the class of horses and men best fitted for both light and heavy cavalry. It would then be the business of the public establishment recommended in the previous portion of this work, to supply our farmers with the means of breeding with facility the horses these trials pointed out as best calculated for our cavalry. If such experiments be uncalled for, why are so many now made on our ships of war?—why not leave the form of these to be determined by the Cowes Yacht Club, on the same principle that we leave the form and character of all our useful saddle-horses to be settled by the Newmarket Jockey Club?

Looking at the importance of Cavalry when good, and at the pecuniary loss and tremendous consequences which may result from its breaking down in the midst of a campaign; we submit that it demands the closest attention, and that a time of peace, rather than one of war, is calculated for its proper organization.

MILITARY PUNISHMENTS.

HAVING treated on the elementary organization of our Cavalry, we may be pardoned, at the present moment, if we say a few words on Military Punishments.

The discipline of the army must be maintained :—a greater national curse than soldiers in a state of insubordination can scarcely be conceived. The question for discussion is the practicability of preserving discipline by less revolting means than flogging. On service, or before an enemy, we fear this punishment could not be wholly abolished; occasions then arise when every thing depends on the immediate suppression of insubordination. That which is wanted here being an immediate and striking effect, such must be the nature of the means employed to obtain it. If flogging on service were abolished, there seems no adequate substitute short of capital punishment.

At home, under a well-organized system, we cannot doubt that flogging may be rendered unnecessary.

The interference of the public in this matter has been blamed, but without reason. Until the subject some years ago was brought under the notice of Parliament flogging was carried in many regiments to a frightful extent. The discipline of a regiment could then be pretty accurately determined by the degree in which this punishment was resorted to,—the regiments the most flogged being always the worst disciplined. We are ignorant of the daily details of an infantry regiment, but we are acquainted with those of a regiment of cavalry. The result of this experience induces us to conclude, that the system under which the discipline of our cavalry is enforced is capable of improvement. It holds out punishment, but not reward; it is applied to reasonable beings without being addressed to reason. Punishment often resorted to loses much of its terror; while rewards or distinctions, however small, exercise a permanent influence over the majority of mankind. Why should not these means be resorted to for securing discipline? What can be more disheartening than the situation of our soldiers? Few can become non-commissioned officers; the rest, be their conduct ever so exemplary, only escape punishment. The late detestable administration of our poor laws reduced in this manner our working population to a common level, and we have seen the lamentable results. In illustration of our views respecting military discipline, we will cite a case which came, during the late war, under our own observation. The 16th Regiment of Light Dragoons was accustomed to go out to field days so early, that the men had to get up at three o'clock. The regiment after coming home in the middle of the day, with the men and horses covered with dust, had to dress in the evening for a foot parade. Under this system the best and the worst men were severely harassed. Flogging was of course much resorted to in a regiment so managed, and when it came to be reviewed, its condition was pronounced bad. The officer who commanded the regiment at the time alluded to, was the late Sir James Affleck, and it is but justice to say, that an officer more anxious for the advancement of the service never existed. He believed that working every man in this indiscriminate manner was calculated to maintain discipline, and thus he only did what he believed his duty.

The discipline of our cavalry has since this period become improved, and probably a more zealous body of officers than those who now command our cavalry regiments cannot be found in any army. They however, cannot be supposed to possess an equal amount of discretion; neither can we be sure that as a body they will at all times be so efficient as at present. Individuals may be expected to fail occasionally in judgment, when general principles do not suffice to direct them; this throws no discredit on such principles, only shows that they cannot always keep a feeble judgment in the right course. The intellectual variety which exists is the best adducible argument for recurring to general principles whenever we are able. Any permanent regulations which can be laid down for the government of our regiments of a moral character should not be neglected, but they must be based on the nature of man. Had a proper code been established when

Sir James Affleck commanded the 16th Regiment, the zeal of that well-intentioned officer could not have diverged so far from the proper course.

It cannot be right to harass a whole regiment for the faults of individuals. Regimental drills are principally for the purpose of instructing the officers and non-commissioned officers in conducting bodies or sections of a regiment from one position to another. The dragoon is formed in squad drills—if master of his horse, and perfectly instructed in the simple principles by which he has to move in a straight, and a diagonal direction, he is formed for taking his part in regimental drill. If inattentive in this situation, or awkward, let him be severely drilled in squad; but it cannot be right to harass a whole regiment of either cavalry or infantry on account of individuals. Occasions are thus continually arising for drawing distinctions between good and bad soldiers, and they should never be permitted to escape—they furnish a commanding officer with a moral power which often becomes a substitute for severe punishment. Soldiers worthy of confidence should be trusted. Why then should dragoons, who groom their horses well, be made, as they now are, to stay in the stable as long as men who groom their horses ill? Every effort should be made to render the situation of a good soldier more agreeable and creditable than that of a bad one. At present, while refusing confidence of comparatively small moment to all soldiers, we are compelled to leave every man to his own discretion in that situation where he is known to have the least—when off duty with money in his pocket. The source of much of the crime committed by British soldiers is drunkenness. The surplus of pay which exceeds the annual sum required for their maintenance and what are called their necessaries is very small. When however it is made by a soldier a means of getting drunk, it should be forfeited for different periods of time, according to the nature or the frequency of the offence. Money so forfeited should go to form a fund to be distributed amongst those whose conduct up to the time of their discharge had been satisfactory. This arrangement, while withdrawing for a time some men from a temptation they will not, or cannot resist, would foster and encourage the good dispositions of others. If this system dissatisfied one class of soldiers, it would satisfy the rest. Using in this way every moral influence at our disposal, we might, by the further aid of a judicious and centralized system of confinement, dispense with flogging in the army during a time of peace.

The main object of punishment is the protection of society. It has no right to have recourse to means for its defence more severe than this requires—neither should it rely on such as are inadequate. In substituting confinement for more rigorous punishments, it is called on to render the former as effective as possible. Failing in this, it either endangers its own existence—or, by encouraging crime, will be compelled to revert to severer punishments. Confinement, without being injurious, must be severe—prisoners while in health should be compelled to earn their own livelihood, while cut off from every social comfort, save that of religious instruction. If they return to the world improved it is so much gained; if not—society must again oppose itself to their aggressions. It has, however, no right to recur to revolting punishments until every effort has been made to render others effective. Our local gaols, with all their recent improvements, are only fitted to retain prisoners until they can be tried.

There is nothing in the history of modern government more praiseworthy than the desire shown of late years by some of the States Governments of America to improve prison discipline. Both originality and skill have been displayed in some of the plans adopted—they furnish materials out of which, with very few additions, an admirable system of confinement might be founded, calculated to take the place of more rigorous punishments.

Our system of transportation is built on the huckstering and discreditable principle of making the moral improvement of society at home subordinate to the growth of a distant colony. To a man disgraced by having been convicted of crime, transportation holds out a prospect which has something of hope as well as of dread. This may fructify, and quickly populate, a colony; but it rests on no principle as a punishment for maintaining the moral character of society at home: yet we rely now practically on this punishment for the suppression of all civil crime short of murder. If confinement of any kind can exercise so great a power as this in defence of civil society, a well organized and comprehensive system of confinement must be capable of maintaining the discipline of an army at home. Until the two cases are proved to be essentially different, military punishment should not be rendered more revolting than that which we are content to apply for the maintenance of social order.

A just deference to public opinion calls at the present moment upon Government to try, if confinement cannot, with certain moral aids, a few of which have been hastily adverted to, maintain the discipline of our army when at home, without subjecting it to the punishment of flogging.

APPENDIX.

THE following is an extract from a private correspondence of that accomplished traveller, Burckhardt, showing his opinion of the condition of the horses in Syria, etc. etc. These Extracts are taken from Letters in the possession of Mr. Sewell, of the Veterinary College, and we are indebted for them to the kindness of that gentleman.

"It is a mistaken belief that Arabia is very rich in horses. The breed of horses in that country is limited to the extent of its fertile pasturing districts, and it is in these parts only that the breed prospers, while the Bedouins, who are in possession of poor ground, seldom do possess any horses. We therefore see that the tribes richest in horses, are those who dwell comparatively in the fertile plains of Mesepotamia, on the borders of the Euphrates, and in the Syrian Deserts. It is there that the horses can feed for several spring months upon the green grass and herbs of the vallies and plains, produced by the rains, which seem to be an absolute requisite for its reaching to its full vigour and growth.

" Horses are much less numerous in Redjed, than in the aforementioned parts, and become scarce the more we proceed to the south.

" In the Kedjat, in the mountains of that country, and from thence towards Yemen, few horses are seen, and those few are imported from the north.

" The Atenne Tribes of the frontiers of Syria have from 8 to 10,000 horses, and half that number belongs to other small tribes roving about in the same province.

" The single tribe of Arabs Montifek, in the Desert watered by the Euphrates, between Bagdat and Bassora, has at a moderate calculation 8000 horses ; the tribes of Dhefye and Beni Thamar, in those quarters, are rich in horses in proportion ; while the aggregate number of horses of Redjid, Diebel, Hamac, and Rasyne, viz. from near the Persian Gulf as far as Medina, is at most 10,000.

" The large tribes on the Red Sea, between Akaba and Mekka, and south and south-east of Mekka, as far as Yemen, have very few horses, especially those of the mountains. In the eastern plains beyond Beeche and Redjran more horses are met with ; the tribe of Rantan, who live in that quarter, is celebrated for its studs, and so are the Dowasen.

" The inhabitants of the Redjan and Yemen, themselves, are seldom in the habit of keeping any and I believe not far to err from truth, in admitting 5 or 6,000 are the farthest number in the country, from Akaba on the north point of the Red Sea, southwards to the shores of the Ocean in Nadrament, comprising the great chain of mountains, and the level ground on the west of it towards the sea.

" The hot climes of Omar are likewise said to be little favourable to the race, and horses are still there scarcer than they are in Yemen.

" In affirming therefore, that the aggregate number of horses in Arabia, as bordered by the Euphrates and Syria, amounts to almost 50,000, (a number much inferior to that found in Europe, or any other parts of Asia upon an equal extent of ground,) I am confident I have not underrated them.

" The richest country in this part of the east, appears to be Mesepotamia; the tribes of Curdes and Bedouins, in that quarter, very likely possess more horses than all the Arabian Bedouins together; for the richness of their pastures easily propagates their studs.

" The best pasturing places of Arabia not only produce the greatest quantity of horses, but likewise the best and most chosen breeds.

" The finest Koheyls of the Khomh, are met with in Medjid, on the Euphrates, and in the Syrian Deserts; while in the southern parts of Arabia, and especially Yemen, no good breed of horses exist but those imported from the north. The Bedouins up the Redjan have very few horses, their strength consisting in Camel-riders and foot soldiers armed with matchlocks only.

" In the tract between Mekka and Medina, between the mountains and the sea, a distance of at least 260 miles, I do not believe that 200 horses can be found; and the same proportion of numbers is to be remarked all along the Red Sea from Yemba up to Akaba. The united Army of all the Southern Wahabee Chiefs who attacked Mahomed Aly in 1815, at Byssel, consisting of 25,000 men, had only 500 horse-men with them ; mostly belonging to Redjid and the followers of Faisal, one of Sauvri's sons, who was present in the Army.

"The climate and pasture of Yemen is said to be prejudicial to the health of horses, many of them die there of disease, their breed never thrives, and it degenerates in the first generation.

"The Imam of Sauræ and all the Governors of Yemen raise a yearly supply of horses from Nedjid, and those of the sea coast receive considerable supplies by Sowakin from the Nile countries.

"During the Watabee Government, horses yearly became scarcer among the Arabs. They are sold by their masters to foreign purchasers, who carry them to Yemen, Syria, and Bassora, which latter place supplies India with Arabian horses,* because they are afraid to have them seized by Saono, or his successors ; it being become the custom, upon every slight pretext of disobedience or unlawful conduct, to declare a Bedouin mare forfeited to the public treasury. The possession of her, besides obliges her master to attend continually his chief in war. Many Arabs thus prefer keeping no horse at all. In the district of Djibel Shamar many encampments were seen of late without a single horse, and it was known that the Arabs Meteyr, between Mednich and Kasym, had reduced their horses within a few years from 2,000 to 1,200. The late sheriff of Mekka kept an excellent stud of horses.

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* The horses taken in 1810, by the Rowalla Arabs from the Pasha of Bagdat's defeated troops, were all sold to him by Redjid horse-dealers, and by the latter to the Arabs of Yemen. The Arabs of Yemen are *now* by far so nice about blood-horses, than their northern neighbours.

" The best stallions of Medjid were carried to Mekka for sale, and it was become a fashion among Bedouin women going a pilgrimage to Mekka to bring the Sheriff the stallions of their husbands as a present, for which they took in return presents of silk, earrings, &c.

" As far as my knowledge goes, Syria is the best place to purchase true Arabian blood Horses, and no district is more convenient for that purpose than the Naurau, where the horse may be purchased from the first hand, and be chosen in the encampments themselves of the Arabs, who fill these plains in spring time.

" The horses bought up at Bassora, for the Indian market, are purchased second handed from Bedouin dealers; and an Arab will seldom undertake to send a good horse far off to the market with the uncertainty of selling it.

" True blood-horses of the Khomzæ, as I am credibly informed, seldom find, therefore, their way to Bassora, and most of the horses purchased there for the Indian market are belonging to the Montefek Arabs, who are not careful in maintaining a pure breed.

" It might perhaps be worth while for the great European Powers to keep persons on purpose constantly employed in Syria in purchasing horses for them, as the best means to cross and improve their own stud. Damascus would be the best position for such persons to reside in.

" I fancy that very few true Arabian of the best breeds, and still less any first-rate horses of them, have even been imported into England, although many Syrian, Barbary, and Egyptian horses have gone by that name.*

“ The Bedouins say, that the Egyptian mare, if coupled with a blood Arabian, produced a good breed; much better than the indigenate Syrian mares, whose breed is not worth any thing, even if crossed by the Koheyl.

“ The Bedouins of the Nedjau are in the habit of purchasing mares from the Egyptian pilgrim caravan, which they cover by good stallions; and which they sell afterwards the fillies to the Arabs of Yemen.

“ In Egypt itself, on the borders of the Nile no particular breed of horses is distinguished; the best horses of this country are produced in those parts where the best clover grows, which is in Upper Egypt, about Tahta, Armimia, and Tarrivoust; and in Lower Egypt in the district of Meuzaleh.

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* I have never met with any geldings in the interior of the Desert.

† It would be erroneous to suppose that the horses of the Rhouse, or noble breed, are all of very perfect and distinguished quality and beauty. Among the descendants of Eclipse may be found mere hacks, and thus I have seen many Koheys that have little more than this name to recommend them, although the strength of bearing fatigue seems to be common to all the Desert race. The fine horses, however, of the Rhouse are in far greater number than the common horses belonging to the same breed; but among these fine horses few only are found that may be called *first-rate horses,* in either bone, beauty or action; among a whole tribe five or six only, and in the Syrian Desert there are perhaps not more than 200 of that description, each of which may be worth in the Desert itself from £150 to £200: of these latter very few if any have ever found their way to Europe, although it is through them alone that successful attempts could be made to *enable* the European race; while the usually imported horses are all of a second or third quality.

“ Extremely few blood-horses come to Egypt, which is less to be wondered at, as this eminent quality of bearing fatigue is little wanted in the fertile Nile borders.

“ The Egyptian horse is ugly, of coarse shape, and looking more like a coach-horse than a racer; thin legs and knees, short and thick neck, are their greatest defects.

“ The head is sometimes fine, but I never saw fine legs in an Egyptian horse. They are not able to bear any great fatigue, but when fed their action is much more brilliant than that of the Arabian: their impetuosity renders them peculiarly desirable for heavy cavalry, and it is upon this quality of the horse which the celebrity of Egyptian cavalry has ever been founded.

“ In their first onset it is much superior to the Arabian; but where long marches become necessary, and the duties of light horse are required, the Egyptian yields infinitely to the Kopeyl. The Lybian Bedouins draw their supply of horses from their own breeds, as well as from Egypt.

“ In the interior of the Desert, and towards Barbary, they are said to have conserved the ancient races of Arabian horses, but this is not the case in the vicinity of Egypt, where they distinguish as little any peculiar races as the Egyptians do.*

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* About the pedigree of Arabian horses I must add here, that in the interior of the Desert the Bedouins never made use of any, as among themselves they as well know the genealogy of their horses as they do that of their masters. But if they carry their horses to market

" Like the Nalsan Bedouins, Lybians mount exclusively mares.

" The Arabs Naazy and Noteyn, Upper Egypt, in the Desert, between the Nile and the Red Sea, have continued the breed of the Khouse among them. As in Arabia horses are possessed by them in partnership; they divide each horse into twenty-four shares, or kerats, (according to the division of landed property in Egypt, which is always divided in kerats,) and such a one buys three or four or eight kerats of the mare, and shares in proportion in the benefit arising from the sale of the young breed. So little is known in Egypt, among the soldiers, of the true breed, that when, in 1812, Ibrahim Basha's troops took ten Koheyl horses belonging to Neteyn, the soldiers sold them among themselves like common Egyptian horses, while their former owners valued them at least three times that price. For 100 Spanish dollars a good cavalry horse can at all times be got in Egypt. The highest price paid for an Egyptian horse is 300 dollars. A Bedouin would never give 50 dollars for the same.

" The Mamelukes formerly esteemed the Koheyl of the Desert, and went to considerable expense in propagating their breed in Egypt. The present masters of this country have not the same passion for fine horses as their predecessors, who had in many respects adopted Arab

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to any town, as Bassora, Bagdat, Aleppo, Damascus, Medin, Mekka, they then take care to have a pedigree written out in order to present it to the buyer; and only in that case will a Bedouin be found possessed of his horse's pedigree; while on the other hand, in the interior itself he would laugh at being asked for his mare's pedigree. (This to correct a formerly given false notion on that subject.)

notions, and had made it a fashion amongst them to acquire a complete knowledge of horses, and to keep their stable upon a most extravagant establishment.[*]

add to the breed of Arabians el Thamerye of the Koheyl breed, el Nezahhy a breed of the Nadaba. Some tribes reckon the stallions of the Nezahhy among the number of blood horses.

" The Mauckye and Djolde are not reckoned to the Rhomn by the Arabs of Redjid.

" The Bedouins use the horses of the Khouse exclusively as stallions. The finest horse born of a mare belonging to a race which is not comprised within the Khouse, would, notwithstanding its beauty and perhaps superior qualities, never be admitted as a breeder. Savud, the Wahabee chief's favourite mare,[†] which he constantly rode on in his expeditions, and whose name, Reraye, was become famous all over Arabia, brought a horse of very superior beauty and excellence, the mother, however, being not of the Khouse, Savud would never permit his people to use that horse as a stallion, and not knowing what to do with it, as Bedouins never ride horses, he sent it as a present to the Sheriff.[†]

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[*] In Redjid the Nadaba and Dahma are much esteemed. The breed of the Messena of the Koheyl race, serves in Redjid never as a stallion.

[†] Savoud bought her from a Bedouin of the Arabs Kahtau for 1500 dollars.

[‡] A troop of Druves on horseback attacked, in the summer of 1815, a party of Bedouins in

"The Bedouins ride Mares only. They generally do not permit them to be covered until the completion of the fifth year; poor people, who look anxiously forward to the profits to be derived from foaling, often have them covered after the completion of the fourth year.

"The price paid for the use of a stallion covering a mare is one Spanish dollar.

"The master of the horse has a right to *war** the payment of the dollar, and many take his chance to wait until the mare foals; if she throws a filly he is entitled to a young female lamb of one year of age, if she brings a foal, he takes a similar male camel in payment of the use of his horse.

"When a horse is born, the Bedouins never let it drop down to the ground, but receive it upon their arms out of the womb of the mother, and keeping it for several hours upon their arms, occupied in washing it, in stretching and strengthening its limbs, and hugging it like a baby. After which they put it down and watch its feeble steps with

the Homrau, and pursued them to their encampment, when they were in their turn assisted by a superior force, and all killed excepting one, who fled. He was pursued by one of the best mounted Bedouins, but his mare, although fatigued, kept up the run for several hours, and could not be overtaken. Before his pursuers gave up the chase, they cried out to him, promising him safe conduct, to beg to be permitted to kiss his excellent mare upon her front. Upon his refusing they at last left the close pursuit, and in blessing the generous beast, cried out to the fugitive—"Go and wash the feet of your mare, and drink off the water."

This latter expression is much used by the Bedouins to show the great love they bear to their mares, and the obligation under which they are to them.

* Probably *waive*.

particular attention, prognosticating from that movement the virtues or defects of their future companion.

"The people of Medjid feed their horses regularly on dates. At Deyrach and in the country of the Flassæ, dates are mixed with the dried clover (*Birseem*) and given them in food. Barley, however, is the most usual food in all parts of Arabia.

"The wealthy people of Medjid frequently give flesh to their horses, raw as well as boiled, together with all the offals of their table. I knew a man at Hamah, in Syria, who assured me that he had frequently given his horses washed meat before a fatiguing journey to make them endure the journey with greater facility.

"The same person related to me, that being apprehensive of the governor of the town taking a liking to his favourite horse, he fed it for a fortnight exclusively upon roasted pork, which increased its *middle*[*] to such a height, that it became absolutely ungovernable, and could be no longer an object of desire to the governor.

"I have seen vicious horses in Egypt which were apt to bite, cured of this vice in presenting to them, while in the act of doing so, a leg of mutton just taken off the fire, the pains the horse felt in biting through the hot meat, made it give up that trick after a few repeated lessons.

"Egyptian horses are much less soft in their tempers than Arabians.[†]

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[*] Probably *mettle*.

[†] The Arabs have the Prophet's saying continually in their mouths, "Good fortune rests upon our noble horses."

They are often vicious, while the latter almost never are, and require to be constantly tied, while the Arabians freely walk about the encampment like camels.

" Egyptian grooms are famous all over the East for their treatment of horses, so much so that the bashas and grandees, all over Asiatic Turkey, make it a rule to have always a couple of them in their service. They curry a horse three or four times a day, and make themselves so busy about it, that it is against law in Egypt to have as many grooms as horses in the stable, every one of the former having the care of one horse.

" The Wahabee chief, who has no doubt the finest stud of horses in the whole East, never allows his mares to be mounted until they have

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* A foal is called among the Bedouins, —— its 1st year.
2d ——
3d ——
4th ——
5th ——

After the teeth are full grown in the 5th year, the horse is called ——, and from thence the years are continued, &c. &c.

A filly is called in its . . . . 1st year.
2d ——
3d ——
4th ——
5th ——

The back teeth, or ——, are counted with the mare up to the 15th year, and after she has thus passed the 10 years of Kerook, she is called —— .

The tail is never left to grow at full length until the horse or mare has completed the back teeth.

completed their fourth year. The common Bedouins frequently ride them even before they have completed the third.

"The Wahabee chief has prohibited his Arabs the selling of one-third of a mare, as is frequently practised among the Northern Arabs, alleging that this custom leads often to unlawful and cheating tricks. He permits the selling of one-half of the mare."

⁂ *The above Extracts seem imperfect, but we have no time to get them rendered more perfect.*

Extract of a Letter from the Neighbourhood of Exmoor:—"The herbage on Exmoor consists of a variety of grasses, but in consequence of its being in an undrained state they cannot easily be distinguished. The principal food of the Exmoor ponies in the winter is a sort of sedgy grass and rushes; and when taken up they are found to answer better on grass than when kept on dry food."

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B.P.L. Bindery,
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